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GAZETTE

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DECONSTRUCTING MAJOR CRIME

Making sense of senseless crime

Snaring Pickton
Catching Canada's worst serial killer

Crime on the high seas
Piracy in the Suez Canal

Patrolling the web
Fighting crime with social media

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Canada

The many layers of complex investigations

What is major crime? From school violence to serial killers, some of the most shocking headlines relate to major crime. Most of us can't comprehend man's inhumanities, but law enforcement personnel around the world confront the horror daily in an effort to bring these criminals to justice.

Major crime is generally defined as any case that falls outside the scope of day-to-day police work, often within the following areas (though this list is not all-inclusive): serial crimes against people, homicides and attempted homicides, suspicious deaths, missing persons where foul play is suspected, officer-involved deaths, major administrative investigations or public inquiries, or multi-victim accidents or disasters.

To conduct thorough investigations of some of the most challenging offences to the *Criminal Code*, strategic tactics and techniques are required. From specialized investigative units to behavioural analysts to old-fashioned police work, law enforcement agencies around the world strive to bring organization and structure to the disorderly and frenzied environment that is major crime. In this issue of the *Gazette*, we look at some high-profile cases, how various law enforcement agencies handle major criminal investigations, and at some lessons learned. Caroline Ross delves into the renowned search for Canada's worst alleged serial killer and how the joint investigation took patience, perseverance and a concerted team effort to catch the killer.

Accountability and transparency in complex investigations leads to a stronger case and successful convictions, and the RCMP is working to enhance that accountability. The article "Beyond the crime scene" looks at major case management (MCM) and a few initiatives throughout the force that are aiming to better align investigations with the guiding principles of MCM.

In this day and age, it takes mere moments for a reporter to disseminate information about a critical incident. With live feeds to news outlets, the Internet and social media networks like Twitter, the media can be a help or a hindrance to major criminal investigations. Senior officers with the Greater Manchester Police explore the role of the media, and how to work with them, not against them, and how they can be used to support an investigation.

Taking a look at mass, serial and spree killing are professors James Alan Fox and Jack Levin. Having published several books on multiple murders, here they take a look at distinguishing between the three subtypes of multiple homicide and identifying any discernible patterns and circumstances among them.

Aside from our in-depth look at major crime, don't miss our regular departments that look at a range of topics, including a new research initiative aimed at improving tactical training, and how one police department has partnered with the community to reduce crime and boost the economy.

We'd be remiss if we didn't touch on the 2010 Winter Olympics. While the flame has gone out in Vancouver, the spirit of the Games lives on. The Vancouver 2010 Games was a momentous occasion for Canada, and Joanna Burgess takes a look at how the RCMP brought together approximately 15,500 personnel from Canada's police, military and security communities to help secure the Games. Around 4,500 members of the Canadian Forces participated, and Rear-Admiral Tyrone Pile gives readers a behind-the-scenes look at Operation Podium.

As always, we hope you enjoy this issue of the *Gazette*, and we welcome your thoughts and story ideas for future issues.

Kim Gault

More to explore on major crime from the Canadian Police College Library

www.cpc-ccp.gc.ca/library-biblio/library-biblio-eng.html

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ON THE COVER

Major crime investigators are tasked with investigating some truly heinous crimes and they are accountable for every aspect of the case. From analyzing crime scenes, to collecting evidence, to interviewing witnesses and suspects, to testifying in court, there are many layers to a major crime investigation.

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PASSING THE TORCH ON OLYMPIC SECURITY

The Vancouver 2010 Olympic and Paralympic Games may have ended in March, but the legacy of securing those games lives on — thanks in part to the efforts of the Vancouver 2010 RCMP International Police and Visitations Program (IPVP) team.

Operational from September 2008 to March 2010, the nine-person IPVP team organized and hosted visits from 75 foreign and domestic delegations comprising over 700 police, government and security personnel — all of whom travelled to Vancouver for a first-hand look at how the Vancouver 2010 Integrated Security Unit (ISU) was preparing to handle the largest security event in Canadian history.

"We had visitors from the U.K., Russia, France, Germany, Singapore, the U.S., New Zealand, India," says RCMP S/Sgt Kelly Auld, who oversaw the IPVP. "We also had domestic visitors from other police forces (including those responsible for securing G8 and G20 summits in Canada this year)."

For each visit, IPVP staff developed a detailed itinerary involving up to four days of briefings, in-depth meetings and venue tours — all tailored to meet each group's unique needs. Visitors also took home a booklet and DVD summarizing ISU structures and mobilization plans.

Auld says that visitors were particularly interested in ISU command-and-control structures, which integrated some 16,000 police, military and private security personnel from over 70 Canadian safety and security agencies in order to secure a 15,000-square-kilometre area of both urban and backcountry terrain.

C/Supt Jim Busby of the London Metropolitan Police oversees venue security for the 2012 Olympics in London, England. Busby and four colleagues visited Vancouver under the IPVP in 2008.

"(The visit) was a unique opportunity," says Busby. "We saw the ISU and got a real feel for the practical way in which agencies needed to come together for such a significant security operation." Busby says he took back several ideas for structuring his own Olympic security effort.

Best practices from the IPVP and other ISU units will be published in an after-action report to help inform future event planning.

— Caroline Ross

INTEGRATED ROAD SAFETY

What's the best way for law enforcement agencies to improve road safety on Alberta's busiest and most dangerous highways?

Integrate the efforts of provincial traffic safety units, according to the results of a 2009 pilot project conducted by Alberta RCMP Traffic Services and the Alberta Sheriff Highway Patrol.

The pilot tested four models of traffic service delivery and found that integrating RCMP and sheriff resources was the most effective way to strengthen enforcement, increase visibility and deter dangerous driving on provincial roads. The two organizations are now working to implement approximately 20 Integrated Traffic Units (ITUs) across the province by 2012.

"It's very hard to do modern traffic service delivery with one or two people (conducting enforcement) at a given location," says Insp James Stiles, head of Alberta RCMP Traffic Services. "Doubling or tripling that amount (through integration) gives you a critical mass of employees, so you can implement more effective traffic enforcement strategies like checkstops, seat belt checks and intersection enforcement."

In Alberta, some 178 RCMP provincial traffic service officers and 107 traffic sheriffs enforce traffic laws on highways and rural roads. Sheriffs are peace officers working under the authority of the Alberta Solicitor General and Ministry of Public Security; they do not investigate criminal offences, such as impaired driving or drug possession, but turn such matters over to the RCMP.

Pairing sheriffs and police officers on ITU shifts not only removes duplication of enforcement effort, it also facilitates quick, seamless hand-off of criminal investigations, says D/Chief Rick Gardner, acting director of the Alberta Sheriff Highway Patrol. Sheriffs can also expedite investigations by assisting with paperwork, towing, and arrest-related duties.

In Airdrie, one of the ITU pilot sites,

Cpl Darrin Turnbull

RCMP Cst Matthew Labelle (left) and Alberta Sheriff Jason Delaney of the Airdrie ITU work together at a collision site.

RCMP Cpl Darrin Turnbull says his traffic service officers have laid significantly more *Criminal Code* charges since they began working alongside their sheriff partners.

Morale has also increased, says Turnbull. RCMP officers no longer work alone, and sheriffs are learning new skills. "Integration, in my mind, is a success."

— Caroline Ross

LANDMARK LEGISLATION TARGETS EARLY STAGES OF IDENTITY THEFT

From stolen credit card information to the wholesale misappropriation of an identity, identity theft and fraud in Canada is a lucrative business — in 2009 the Canadian Anti-Fraud Centre received identity fraud reports from 11,095 Canadian victims, totalling a loss of more than $10 million. Although payment card fraud was the most reported identity-related crime, many instances of identity theft still go unreported.

On January 8, 2010, the much anticipated Bill S-4 became law, introducing several amendments and three new core offences into the *Criminal Code*. The new legislation targets illegal activities associated with identity theft:

- obtaining and possessing identity information with the intent to use it in a crime,
- trafficking identity information knowing it will be used in a crime, and
- unlawfully possessing or trafficking government-issued identity documents.

Most *Criminal Code* offences relating to property predate both the computer and the Internet. Until now, copying personal information, even for future criminal use, has not been an offence — police officers could only lay charges after someone had committed a fraud using stolen personal identity information. This new legislation closes that gap and opens the door to the front end of the criminal organization involved in such activity.

"The trafficking of personal information is a big problem. Canadian identification documents are quite valuable and are sought by many criminal organizations," states Cpl Julie Beaulieu of the RCMP's Commercial Crime Branch. Today's identity thieves can operate at a distance from their victims, accessing and sending large amounts of personal information quickly and easily around the world. The introduction of this new legislation will have a huge impact on the international stage, as law enforcement now possess effective tools to combat this growing criminal activity.

With increased punishments and stiffer sentences, Canada is addressing the perception that it is a safe haven for fraudsters. Bill S-4 will prove to be a vital tool as the Commercial Crime Branch drafts a national strategy on identity theft and fraud that will tackle prevention, enforcement and prosecution.

– Kim Gault

QUERY TOOL BOOSTS BORDER SECURITY

Canadian police and security partners can now query INTERPOL criminal databases in real-time, at the click of a button on Canada's national police information network.

The new query capability took effect on June 21, 2009. It allows officers to enter a name or passport number on any Canadian Police Information Centre (CPIC) computer terminal and query the INTERPOL databases that house records on over 190,000 internationally wanted persons and 20 million stolen or lost travel documents.

"Providing front-line officers with real-time query capabilities of INTERPOL global databases has enhanced the Canadian police community's ability to protect Canada's sovereignty," says Insp Bob Resch, Director of INTERPOL Ottawa. With accurate, complete international data now at their fingertips, officers are better positioned to prevent criminals from entering Canada in an attempt to evade capture or commit further crimes.

The query interface is the result of a two-year collaboration between INTERPOL and the RCMP, which administers the CPIC network on behalf of over 380 Canadian law enforcement agencies and security partners, including the Canada Border Services Agency.

As of January 31, 2010, CPIC users had submitted 132,135 queries via the interface, resulting in 529 hits on INTERPOL databases.

Few, if any, of those hits would have occurred under Canada's previous query process, says S/Sgt Kevin Fahey of INTERPOL Ottawa. Under the old process, staff at INTERPOL Ottawa manually entered INTERPOL data into the CPIC system. Data entry for a single record often took days or weeks to complete, and even then, front-line officers had access to only a fraction of available INTERPOL records — namely the 5,000-odd red notices (wanted persons' advisories) that INTERPOL Ottawa could process in a given year.

The gaps and delays associated with the old query process could have created openings for international fugitives to slip into Canada undetected, says RCMP Supt Guy Parent, director of CPIC program and policy. But the new query interface seals those cracks — and also improves officer safety, says Parent.

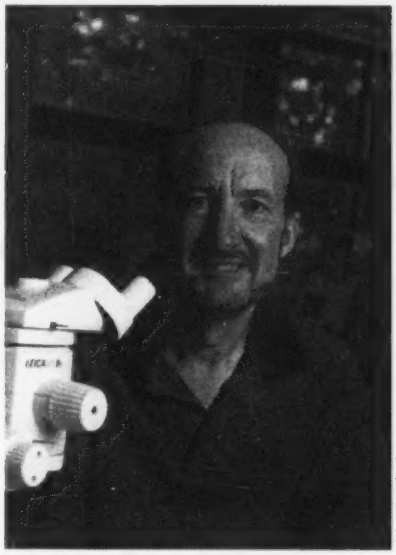
In the future, the RCMP and INTERPOL hope to expand query access to include international data on stolen motor vehicles.

– Caroline Ross

Heating up cold cases

Visualizing fingerprints on shell casings

Just when you think a case has run out of leads, a technique is discovered that can shed new light on old prints. Described by Time *magazine as having developed one of the top 50 inventions of 2008, forensic scientist Dr. John Bond steps out from behind his microscope to chat with the* Gazette*'s Kim Gault.*



University of Leicester

Forensic scientist Dr. John Bond has pioneered a new method of visualizing latent fingerprints on brass shell casings.

Having started your career as a physicist, what led you to law enforcement?

I applied to an ad that sounded interesting for head of forensic science at Northamptonshire Police. I had no experience in forensic science, but quickly learned that it was really the application of other scientific disciplines to solving crime. Most fingerprint enhancement research is chemistry-based, but I looked at it from a physics perspective and the corrosion of metal. Based on what we did, the University of Leicester became interested, and in 2007 I was made a fellow.

How valuable are fingerprints in solving crimes, and how does your technique allow you to visualize latent prints?

Fingerprint evidence (certainly in the U.K.) is still the most reliable and common means of forensically identifying a suspect and of solving a crime. When you touch an object with your fingertips, you leave behind in sweat an impression of your finger ridge detail — how conventional techniques visualize fingerprints. We discovered early in our research that sweat could actually corrode certain metals and leave behind an impression of the ridge detail in corrosion. Even after sweat has been washed off, corrosion remains. Being a physicist, I looked at how corrosion might change the electrical properties of the metal and found that areas of corrosion have a lower potential than uncorroded areas when a large potential (about 2,500 volts) is applied. This difference in electrical potential is used to attract a fine carbon powder to the corrosion, rendering the fingerprint visible. More noble metals (like gold and platinum) don't work very well. At present, it works best on copper and copper alloys (like brass).

> "We discovered early in our research that sweat could actually corrode certain metals and leave behind an impression of the (fingerprint) ridge detail in corrosion."

Based on this new technique, what types of cases are you being contacted about?

Most cases are homicides. Those that stand out are when an officer has visited us personally. With these cases, once we have examined the casings, we hear a lot more about the case, the victims, etc. The case that stands out most is the murder of Marianne Wilkinson in North Richland Hills, Texas. Because Det Tony Roten (of North Richland Hills) came to see us in person, we learned a lot about the victim, the crime, and the victim's relatives. We even had e-mails from Marianne's relatives about the work we've done. That makes it quite real for us, even though the homicide happened thousands of miles away.

Can you tell us about your experience on "America's Most Wanted"?

The Marianne Wilkinson homicide was featured on "America's Most Wanted" and we hosted presenter John Walsh for a day and demonstrated our technique. We found a print on one of the shell casings after conventional techniques had failed. We don't lose sight of the fact that all this is happening to try and solve a crime — often when all other means of recovering forensic evidence have failed. We never say no if someone wants us to look at spent shell casings for fingerprints.

Are you and your staff the only ones able to apply this new technique?

At present, yes. However, the equipment is currently being manufactured and hopefully by the end of the year police forces will be able to buy this equipment and carry out examinations themselves.

Are you working on any new techniques that will further enhance crime scene investigation?

I'll be starting a new project soon looking at how corrosion affects the optical properties of metal (again, using physics rather than chemistry). Corrosion forms a thin film on brass, made up of zinc and/or copper oxide. These compounds absorb certain wavelengths of light, and re-emit them at different wavelengths. I hope this will lead to other ways of visualizing fingerprint corrosion of metals. Initial work we did late last year with the U.S. Naval Criminal Intelligence Service gave promising results for corrosion of brass in Iraq. We would like to find a way of easily visualizing fingerprints on IEDs. ■

To catch a killer

Profiling based on experience, not a crystal ball

By Kim Gault

On February 7, 2010, the Ontario Provincial Police (OPP) and the Belleville Police Department charged 46-year-old Canadian Forces Colonel Russell Williams with two counts each of first degree murder, forcible confinement, break and enter, and sexual assault in connection with two murders and two sexual assaults.

Based on the emerging pattern of these crimes, it's possible that these weren't Williams' first, and the OPP announced that it would leverage the expertise of the RCMP's Violent Crime Linkage Analysis System (ViCLAS) to examine unsolved crimes that may be connected. Part of the RCMP Behavioural Sciences Branch (BSB), ViCLAS enables trained analysts to recognize serial offenders based on explicit details that are uploaded by police all over the country.

Insp Pierre Nezan, officer in charge of the RCMP Criminal Investigative Analysis Section (CIAS), explains that "in a situation like Col. Williams, because all agencies in Canada comply with ViCLAS, it is definitely one of the best vehicles to find any linkages to unsolved crimes."

Analyzing behaviours

ViCLAS is not the only tool available to support major crime investigations. The BSB also includes the National Sex Offender Registry, the truth verification/polygraph unit, and the CIAS, which provides crime scene reconstruction analysis, forensic linguistics analysis, threat/risk assessments, and other criminal and geographic profiling services — all of which analyze different aspects of behaviour. "While we're commonly referred to as criminal profilers, we prefer the term criminal investigative analyst (CIA), which more accurately encompasses everything we do," states Nezan.

RCMP geographic profiler S/Sgt Carl Sesely relates a case of a serial rapist in Laval, Quebec, that demonstrates the perfect marriage of BSB services. The team first determined the modus operandi and signature behaviours to find a link, which then enabled them to create an unknown offender profile, at which point Sesely was able to narrow down the search with a geographic profile.

"Profiling looks at many factors," comments Sesely. "But people generally take the path of least resistance. When it comes to geography, people typically seek out areas that they are comfortable in." When Laval investigators identified their suspect, he did in fact live in the profiled area.

Popular culture has led to many myths about profiling, but Nezan explains that there are many layers to what BSB does, none of which involve a crystal ball. "There's an intuitive aspect that's based on experience, but TV has made it much more extravagant than it really is." Officers generally have at least 10 to 12 years of experience (primarily in major crime) before joining the team, and their work is based on specialized training, experience, and a wide body of research.

In search of the truth

"We provide investigative strategies, a big part of which is to help develop interrogation strategies," says Nezan. The BSB team draws inferences based on the subject's personality and background, helping investigators plan for the interview or trial. There's much more scrutiny on police investigations than there ever has been — interrogations have become very sophisticated exercises in search of the truth, which may be required as evidence in court.

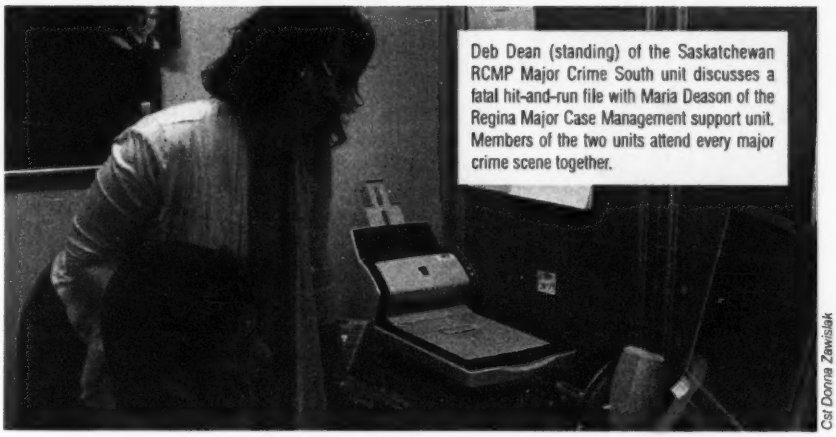
Profiling is an important investigative tool, as are the many other support services offered by BSB, but it doesn't replace old-fashioned investigative techniques, precise analysis of physical evidence and corroborated testimony. And unlike his prime-time television counterparts, Nezan says that although he hasn't personally solved a case since he left the Major Crime Unit in British Columbia eight years ago, his team has enjoyed successes supporting other officers. Profilers do not solve crime, investigators do.

In addition to supporting law enforcement agencies across Canada, BSB offers advice internationally, having recently returned from Antigua, where they offered assistance on a serial sexual predator case, as well as working with agencies in Australia, Belize and France, among others. But with a focus on preventing crime, they are tasked more and more with providing risk assessments and strategizing ways to mitigate threats.

"The unknown offender profile of the serial killer, which is what profiling developed from, has really become a small piece of the pie," comments Nezan. "When investigators are dealing with any kind of major crime — homicide, sexual assault, extortion, child molestation, anything serious and violent in nature — they should call and see if we can assist in any way." ■

Beyond the crime scene: building accountable investigations

By Caroline Ross



Deb Dean (standing) of the Saskatchewan RCMP Major Crime South unit discusses a fatal hit-and-run file with Maria Deason of the Regina Major Case Management support unit. Members of the two units attend every major crime scene together.

Cst Donna Zawislak

In today's major crime investigations, nabbing the suspect is only half the battle. The other half — the bigger half, some would argue — is gathering evidence in ways that can withstand court scrutiny.

"Solving the crime is solving the crime — that will never change," says RCMP Insp Murray Power, whose resumé includes five years with the B.C. Integrated Homicide Investigation Team. "The change in major crime investigations is how the investigations are managed and made accountable."

To achieve that accountability — and increase the likelihood of successful court convictions — the RCMP employs a policy of major case management (MCM). MCM applies to any complex, high-risk investigation, and key tenets include use of a command triangle, team-based decision-making, and regular, effective communication at all levels of the investigation.

Several initiatives are underway within the RCMP to better align major crime investigations with the principles of MCM. Here's a sampling of what's being done.

Saskatchewan: Loading the front end

In 2008, the Saskatchewan RCMP created a dedicated MCM support unit to help investigative teams track and document evidence via MCM software. That development gave rise to a new policy in the division's Major Crime Program: now, every time major crime investigators are called out to a new crime scene, they take one or two MCM support personnel with them.

The arrangement allows investigators and MCM staff (who previously remained behind at the office) to get a jump-start on building electronic disclosure packages, thus reducing backlogs and duplication of effort, says Insp Len DelPino, officer in charge of the Saskatchewan RCMP Major Crime Program.

"Now our MCM people are involved at the front end (of every investigation)," says DelPino. "They have a better understanding of how they can support us on disclosure packages, and our investigators can focus on investigational work at the scene."

British Columbia: Accredited team commanders

Most major crime team commanders receive MCM training through the Canadian Police College, but the RCMP and municipal police forces in B.C. have gone one step further.

In 2004, the B.C. RCMP Office of Investigative Standards and Practices (OISP) and municipal partners launched a comprehensive team commander accreditation program, which now encompasses 67 positions in major crime, drug enforcement, commercial crime, general investigation and other criminal investigation disciplines.

The program is administered by a 25-member integrated MCM committee, and accreditation is rigorous. Officers holding any of the designated positions must demonstrate significant involvement in nearly 10 major case investigations; possess a breadth of investigational experience; complete training in disclosure and wiretap procedures; and obtain references from supervisors, partner agencies and Crown counsel.

"We're looking for people who have had success in the past with prosecutions, and we define success as charges laid, convictions obtained," says RCMP Insp Kevin MacLeod, chair of the MCM committee and head of the OISP.

RCMP units in other provinces are currently exploring ways to adapt the B.C. concept for use in smaller divisions, where resource levels don't permit full-scale accreditation.

Canadian Police College: Thinking outside the toolbox

In the past, major crime investigation was a nuts-and-bolts affair, often conducted by a single investigator who employed various techniques based on his or her past experience, says RCMP Sgt Mike Petrilli, co-ordinator of the Major Crime Investigative Techniques Course (MCITC) at the Canadian Police College (CPC).

But personal know-how won't cut it in today's courtrooms. That's why the CPC revamped the MCITC in 2009, adding an extensive component on operational planning and aligning coursework with the "primary investigator" role of the MCM command triangle.

"We're now teaching (primary investigators) how to think critically and involve the entire team in decision making processes," says Petrilli. Investigators are also taught how to brief up and down the line of command, he says. "When you get the brainwaves of everyone involved, you can avoid tunnel vision and get the best plan possible." ■

What current trends will have the greatest impact on the direction of future major crime investigations?

The panellists

Det C/Supt Ray Wise, Criminal Investigations Department, Gwent Police, U.K.
Insp Dennis McGuffin, OIC Major Crimes, Manitoba, RCMP
Special Agent Gary Rothwell, Georgia Bureau of Investigation, U.S.A.

Ray Wise

Over 7.7 million adults in the U.K. are reported to have experienced childhood sexual abuse and 1.5 million have allegedly been victims of rape. Last year alone, 12,600 people reported rape offences, while research indicates eight out of 10 offences are not reported. Of the relatively few that make it to court, half result in a guilty verdict.

These numbers have been used to criticize the police and partner agencies for failure to take rape seriously. However, what this data failed to identify was the service provided to the victim. In order to increase public confidence in respect of rape and to have an impact on future investigations, we must refocus our efforts and ensure all our service is victim-centred. Historically it is acknowledged that the police have not always prioritized victim services.

In recognizing the need for change, the Association of Chief Police Officers, Her Majesty's Inspector of Constabulary and National Police Improvement Agency, have provided the 43 forces in England and Wales with direction and guidance in respect of rape, and national inspections have developed a rape focus. Another overriding aim is to improve the standard of investigation and increase confidence in our criminal justice system (encouraging more victims to report).

In April 2009, Gwent Police embraced the need to change. We introduced a dedicated team of accredited detectives and Sexual Offence Liaison Officers for rape investigations. The team is based next to a Sexual Assault Referral Centre (used for interviewing, examining and supporting victims) and crisis intervention workers are available 24 hours a day.

At a partnership level, we established links to youth groups, mental health teams, social services and education establishments. Our holistic approach to rape now encompasses education, awareness, prevention and response to the needs of individuals and communities. Our new Policing and Partnership Pledge vows the following to rape victims:

- We will treat you with respect, care and sensitivity.
- We will provide you with specialist support and services.
- We will tailor our services to meet your individual needs.
- You will be treated in confidence.

This pledge, recommended by victims, has proven extremely important in encouraging victims to come forward, particularly via representative agencies.

Early reports show that significantly more victims of rape have reported offences. Perhaps most important is the feedback from victims themselves who feel valued, cared for and in many cases have further assisted in the development of our processes and community engagement. While victims have a choice whether or not they make a criminal allegation, many feel more able to proceed to the prosecution stage. Our multi-agency support is building more resilient victims.

I believe that Gwent Police has made significant steps towards the delivery of a victim-focused approach to rape and has moved away from judging performance solely in respect of detection rates and other statistical data measurements. In respect of rape, we need to focus on qualitative, not quantitative, performance measurements.

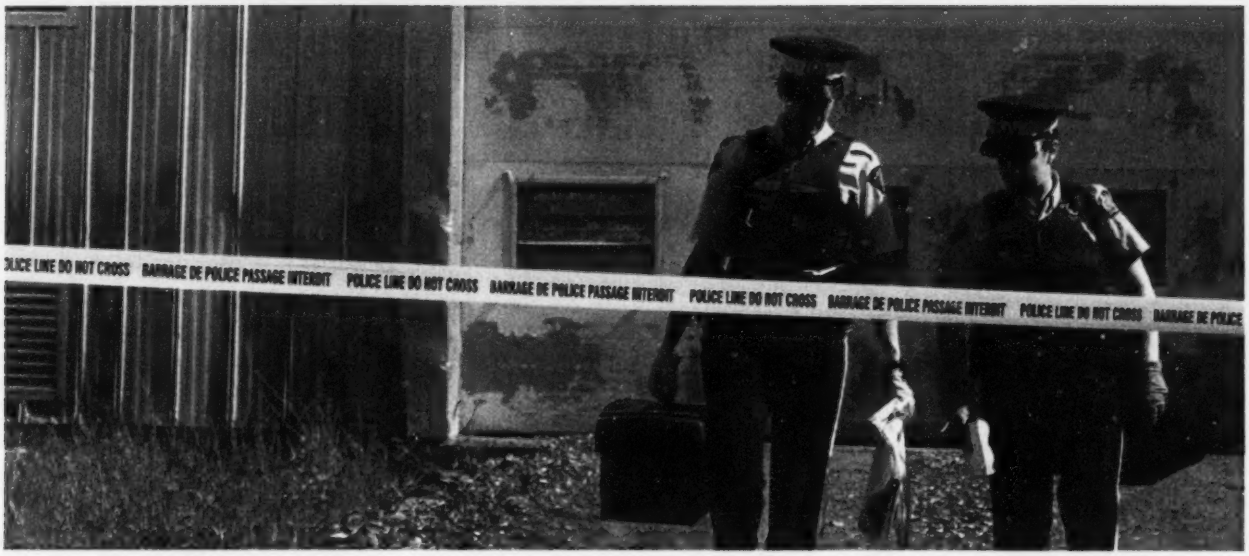
Dennis McGuffin

Gone are the days of the so-called "smoking gun" homicide. Today there is no such thing as a simple major crime investigation. While technology has greatly enhanced our ability to bring forward new forms of evidence, it has also placed an extra burden on investigators unlike anything we've ever seen before.

Years ago, one of the first homicides I was involved in was handled by two investigators with only the Forensic Identification Unit for support. Today, all homicide investigations are handled following major case management procedures, with a team commander, primary investigator, and file coordinator, all with specialized training and experience. Investigational teams may consist of a dozen or more investigators to bring forward all the evidence that the courts and the public demand.

Investigators require specific training in electronic major case management, forensic interviewing techniques, undercover operations, computer forensics, DNA specimen collection, private communications interception, warrant writing and other legal applications that can sometimes be hundreds of pages long. The several weeks or even months of training a major crime investigator receives means time away from work and home. Support staff has also become increasingly specialized — database administrators, information processors and electronic records managers — to handle the vast amounts of information produced in our investigations.

The Internet and the social networking phenomenon also pose new and interesting challenges to investigators. With the popularity of Facebook, Bebo, Twitter, YouTube and various other sites, today's society has seemingly abandoned its right to privacy, posting personal information, pictures, and possibly evidence. Investigators must determine the existence and validity of such evidence, and how to legally obtain it. As most of the repositories of this information are outside of Canada, we are obligated to prepare Mutual Legal Assistance Treaty applications to access foreign information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for use in court. This laborious task draws on strained resources to obtain evidence that was virtually unheard of a few short years ago.

Staying abreast of the ever-changing expectations and regulatory court requirements for complex cases also has a great impact on investigations. This is exemplified in what has become the monstrous task of timely disclosure. Legal requirements (R. vs. Stinchcombe) have expanded over the years, far exceeding what we ever thought possible. The investigation of a crime may only take a few days, yet transcribing statements, scanning and compiling documents, reviewing and vetting information, and preparing disclosure packages may take months. Today we often supply a computer to the accused to allow access to the electronic disclosure package. The Crown, defence and the courts have become accustomed to an extremely high quality and timely product, which places additional pressure on the investigative team to meet the high benchmarks.

As technology advances, so will the challenges it brings. Investigators will have to be committed to continuous learning to acquire the skills they need to complete a successful investigation.

Gary Rothwell

From my perspective in the southern United States, seemingly exponential advances in communications and information technology (IT) will impact future major crime investigations significantly. Less than two decades ago, plotting long-distance telephone records by hand was considered cutting-edge investigative procedure. Unfortunately, while iPhones, Facebook, MySpace, Twitter, universal broadband, and multitudes of associated devices and software applications are transforming society, many police agencies remain stuck in a gumshoe mentality — oblivious to these advancements, unaware how the criminal element is using them, and, far too often, inept when pursuing technological leads.

To be sure, there are many examples of investigative successes and agencies that have readily adapted. Much is made of software used by intelligence analysts and fusion centres to track offenders and their communications, but I suspect a lot of this is lost on the average investigator. More frequently than we admit, meaningful technological evidence is never obtained because otherwise competent detectives do not realize it exists or are paralyzed by ever-changing service provider requirements, retention schedules, legal processes — and sometimes, investigators just cannot get someone to answer the phone.

To address this situation, some police agencies have established high-tech units. Unfortunately, many tend to morph from providing investigative support into self-directed entities with unilateral priorities. High publicity successes of grant-rich Internet crimes-against-children programs provide incentives for such transformation. Meanwhile, street investigators are left alone in an extremely complicated labyrinth to determine what technological information to even ask for, let alone how to get it.

From time to time, agencies offer training so everyday investigators can become familiar with pursuing telecommunications and IT leads. While this is better than nothing, capabilities are idiosyncratic and diminish with time; consequently, inconsistent investigative procedures within an agency are common.

Describing the problem is easy, but what to do? Continued training of investigators is certainly in order, but to address the issue with certainty, more is needed. An option I champion is to designate at least one person as an agency's telecommunications and IT investigative support specialist. By that, I don't mean just another forensic computer examiner or analyst, but rather an expert at obtaining third-party private sector information, who constantly interacts with service providers, legal compliance officers, and others in the field to know precisely what can be done, who can do it, and how it can be accomplished effectively. Most importantly, this should be someone whose primary responsibility is assisting case investigators.

Few investigative experiences are worse than losing time-sensitive information due to ignorance or being stymied by processes to obtain it. To succeed in pursuing major investigations in the future, investigative agencies must adapt by whatever means to inevitable dynamic changes in telecommunications and IT capabilities. Criminals surely will. ■

New legislation grants police greater authority

By Melissa Heagney
Media Officer
Victoria Police Media

There are many memorable cases that Victoria Police Homicide Squad detectives investigate each year, and the new *Coroners Act 2008* (which came into force on November 1, 2009) gives the police greater power to investigate. The recent disappearance of Melbourne millionaire Herman Rockefeller is sure to be one case they will not soon forget.

Rockefeller, from the Melbourne suburb of Malvern East, mysteriously vanished on January 21 (2010). He was returning from a business trip to Queensland when he stepped off a flight at Melbourne Airport around 9 p.m. He was last seen by a security camera leaving the airport in his 1997 Toyota Prius and hasn't been seen since.

After an intensive investigation that was closely followed by the Australian media, homicide detectives found themselves in Heathcote, a small town about 104 kilometres from Melbourne Airport, where detectives searched for evidence relating to Rockefeller's disappearance.

Police needed to keep the congregating media and community members away from the tracks leading through the Heathcote-Graytown National Park to ensure a possible crime scene would not be contaminated.

Detectives implemented an exclusion zone, one of the new powers given to the Chief Commissioner of Police and his delegates under the *Coroners Act 2008*. This power allows police to exclude anyone not investigating the case from an area in which they believe a body may be found. Det Insp Bernie Edwards, head of the Victoria Police Homicide Squad, says it was the first time police had used the Act to keep media and community members out of an area.

"Obviously we were concerned about maintaining the integrity of evidence if a body was found in the national park," Edwards says. "The new law worked extremely well for us — it ensured searchers could work uninterrupted and gave us the confidence to know if anyone entered the exclusion zone that wasn't supposed to, we could arrest them."

Victoria Police Homicide Det Insp Bernie Edwards (centre) addresses a crowd of media and community members at a crime scene.

Police Association, Victoria

New era for coronial inquests

Edwards says the exclusion zone is one of many new initiatives helping the Homicide Squad's investigations. Under the *Coroners Act 2008*, police have been given new powers to investigate crime, including compelling people to give evidence during a coronial inquest — even if it means those people end up incriminating themselves.

The new legislation allows police to require a suspect to provide access to his or her computer for the purposes of gathering evidence.

While evidence provided during a coronial inquest cannot be used against a person in a criminal proceeding, it can give investigators an idea of how a crime unfolded. This new measure was tested in a case involving notorious child killer Derek Ernest Percy in 2009. Percy was suspected of killing seven-year-old Linda Stilwell in August 1968. Stilwell had disappeared from a St. Kilda beach and was never seen again.

Stilwell's disappearance went to a coronial inquest in late 2009, with lawyers wanting to compel Percy's mother, Elaine Percy, to give evidence at the inquest. The coroner ruled that due to Elaine Percy's health — she was reportedly suffering from dementia — and the passage of time, it would not benefit the case to compel her to speak. The inquest is due to continue this year, and Derek Percy may be compelled to give evidence.

Besides compelling suspects, witnesses and others to speak within the Coroners Court, there are other sections of the *Coroners Act 2008* that compel alleged offenders to assist police. For example, the new legislation allows police to require a suspect to provide access to his or her computer for the purposes of gathering evidence, allowing investigators to access vital information in a shorter timeframe.

Reducing the murder rate

Over the last five years, the Homicide Squad has investigated an average of 60 murders each year. With a 90 per cent resolution rate, the Victoria Police Homicide Squad is one of the most successful in the country.

Edwards says the number of homicides has dropped over the past 10 years due to some actions being taken in Victoria's wider regions by police, including the Homicide Squad.

"We are (mainly) responsible for investigating murder, manslaughter, child destruction/infanticide, police-related shootings, deaths in custody or in police presence, missing persons (probable homicide) and unidentified remains (probable homicide)," explains Edwards. "But we also assist regional investigators with murder-suicide, assisted suicide, and sudden and unexplained death of an infant."

The way child deaths are investigated has also changed under the *Coroners Act 2008*, aiming to ensure deaths are investigated earlier. Under the new Act, the death of a child must be reviewed if the child is the second or subsequent child to die in the care of their parents. There are exclusions to this requirement, such as a death occurring in a hospital, a death where the child was an inpatient of the hospital since birth, and deaths that are not deemed reportable.

These new measures came into effect following some high profile cases of multiple child fatalities. The most notable in Victoria was the case of Carol Matthey.

Police Association, Victoria

Victoria Police Homicide Det Leading Senior Cst Nigel L'Estrange (left) talks to a potential witness at a crime scene.

> "The number of homicides has dropped over the past 10 years due to some actions being taken in Victoria's wider regions by police, including the Homicide Squad."
>
> *Bernie Edwards*

Matthey, of Geelong, west of Melbourne, had four children aged nine weeks to three years who died mysteriously between 1998 and 2003. After a three-year investigation by homicide detectives, the case went to court in 2007. Victoria Supreme Court Justice John Coldrey ruled that much of the medical evidence against Matthey was inadmissible, and the case did not proceed. Though the murder charges against Matthey have been withdrawn, she may still face a trial if new evidence comes to light. "Cases like this underline the reasoning behind the new investigative requirements under the *Coroners Act 2008*."

Living free from violence

Additional measures have been undertaken in the last decade to help police intervene after acts of family violence are reported.

Victoria Police produced a strategic document named *Living Free from Violence – Upholding the Right*, aimed at reducing violence against women and children between 2009 and 2014. "This (strategy) encompasses physical, sexual and other threats of violence," explains Edwards. "Homicide predominately occurs between people known to each other, and we are trying to eradicate police apathy when attending family disputes, (i.e. the idea) that, 'it's just another domestic.' "

The new *Family Violence Protection Act 2008* allows police to separate a fighting couple for up to 72 hours before applying for an intervention order in the court, thus reducing the likelihood of an angry spouse lashing out. These measures give participants time to calm down and think rationally about the situation.

Edwards adds that a number of weapons amnesties held by Victoria Police (where the public can hand in unregistered guns and other edged weapons including knives without conviction) have also helped lower the number of murders. According to police statistics, about 2,400 firearms and edged weapons were surrendered in 2008 and around 1,200 in 2009.

"Getting these weapons off the streets means offenders aren't going to be able to use them if they find themselves in a fight," states Edwards. While measures such as these are helping to reduce the murder rate, there are still cases for the Victoria Police Homicide Squad. Like the disappearance of Herman Rockefeller.

Though the search at Heathcote on January 29 did not uncover a body, human remains were discovered at an address in Glenroy, a suburb northwest of Melbourne, later that day.

It is yet to be determined by forensic testing whether these are the remains of Rockefeller, but two people — Bernadette Denny, 41, and Mario Schembri, 57 — have now been charged with his murder and face trial in spring 2010. ■

Handling the media in major investigations

By Andrew Tattersall
Senior Investigating Officer
and Tony Cook
Detective Superintendent
Greater Manchester Police

Many major crime investigations attract substantial amounts of media interest, and increasing demand for news about major crimes or critical events has had a profound effect on media relations. The police carry an exceptional duty in the public sector for the protection of life and property, and therefore must remain highly accountable.

Obtaining information about police efficiency through media coverage is an effective method of police scrutiny, and therefore the professional management and handling of the media is extremely important. Publicity helps build and shape images and perceptions of the modern police service, positive or otherwise.

Local, national and worldwide correspondents amongst a large range of competing outlets cater to the high intensity 24-7 news cycle. The United Kingdom alone has experienced a steady increase in local and national radio, cable, digital, satellite and Internet channels, and improvements in technology have increased the access, speed and capability at which news is requested and reported. Breaking news is spontaneous by nature and can become global within minutes of appearing on news programs or in "ticker tape" fashion at the bottom of TV screens.

Reporters rapidly descend on major crime scenes to create media frenzy while so-called "citizen journalists" with camcorders and mobile phone recording devices also capture pictures. The murders of Holly Wells and Jessica Chapman in Soham and missing child Madeline McCann in Portugal illustrate the extreme levels of worldwide media interest some cases can generate.

Intense public and press interest can place the senior investigating officer (SIO) in the full glare of the media spotlight, which can be prolonged or can resurface at regular intervals for years to come. (For example, the 1965 Moors murders by serial killers Ian Brady and Myra Hindley were widely reported on, and the notorious couple became known as the most grisly serial killers in Great Britain.)

Demonstrating transparency

Fortunately the needs of modern major incident investigation and those of newsrooms can be highly compatible. Journalists like arrangements that enable them to obtain essential information and updates, conduct interviews and take advantage of photo opportunities.

An SIO can take full advantage of the free publicity — and that's why working with the media, and not against it, has become the norm. Without such agreements, it would be more difficult to solve crime, reach out to witnesses and demonstrate transparency and accountability.

SIOs must always strive for professionalism when dealing with the media, and as such, they can make an important contribution to an investigation. Alternatively, they can unduly interfere with — and sometimes impede — an investigation because they have the power to relay the right or wrong messages to tens of thousands or even millions of people. Included in these audiences are the very suspects, witnesses and information that the SIO needs to solve the crime under investigation.

Role of the media

The activities of the press and broadcast media can have a significant effect on the success of any investigation and subsequent prosecution. Handled incorrectly, the media can become a major disruption to any investigation because it will inevitably seek contact with victims, witnesses and investigators. Many reporters could already be at the scene and may even be interviewing key witnesses. Worse still, they could be with members of the family, causing unnecessary alarm and confusion.

Ignore the media at your peril because if the "beast" is not fed regularly it will feed itself and wreak havoc on your inquiry — e.g. by speculating, criticizing, or finding so-called "experts" to comment, many of whom are not in touch with the latest developments in policing, and none of whom are sighted on the details of the investigation. Wrong messages can be dispersed and evidence (particularly witness testimonies) can be compromised. It is therefore preferable to treat the media as an investigative tool.

Det Supt Tony Cook (left) and SIO Andrew Tattersall recently published the *Senior Investigating Officer's Handbook*, which covers the many facets of criminal investigations.

Controlled, pre-verdict media briefings are considered good practice and the release of material is done under embargo to achieve maximum impact and publicity while protecting the integrity of the court proceedings.

Supporting investigations

The following are a few ways the media can be used to support an investigation; they can:

- keep the public informed;
- disseminate information very quickly to large audiences (consider holding back certain critical details, which can be later used to corroborate accounts and prioritize actions);
- provide accurate and timely information to the public;
- help the public understand what the police do and why, and increase public confidence;
- make appeals for information and

witnesses and identify victims and/or establish their last movements;
- trace named suspects (subject to strict evidence consideration in relation to identification);
- put pressure on offenders to give themselves up and/or admit offences;
- trace the whereabouts of missing persons;
- provide reassurance and/or crime prevention advice; and
- develop good relations with the community.

If the police aren't proactive in providing accurate and regular updates, the media will conduct their own inquiries. If they do they may get up to mischief by reaching incorrect or inaccurate conclusions that are subsequently broadcast or published, leading to a misrepresentation of facts or false information being circulated. This can seriously undermine an investigation or destabilize police/community relations and confidence. Some examples of media compromise are:
- speculative links to other offences/ incidents in the region or elsewhere;
- critical comments about the crime scene location;
- assertions about motive or cause behind an offence/incident/operation;
- assertions about the details of offender(s); or
- assertions about the details and background of victim(s).

Role of the media liaison officer

The SIO has the ultimate responsibility for formulating policy and handling the media with regard to the investigation. The local community context also plays a large part in media strategy decision-making, hence the need to develop strong links with local community police officers as early as possible to relay the correct messages.

The media can take up a lot of an SIO's time, as often there is not one media agency but several. The key is to enlist the help of a media liaison officer (MLO) to assist in managing this demand on the SIO's behalf.

MLOs operate at both strategic and tactical levels, communicating with external agencies and providing support to operational staff, acting as an important buffer and conduit between the media and the police.

Media liaison officers also monitor the media and gauge the reaction, level of interest, and accuracy of storylines in order to anticipate media interpretations. This is an early warning mechanism to give ample opportunity to prepare a response. Knowing what has been or is going to be published in the media should influence media strategies.

Police media relations are, by and large, far more professional when managed by MLOs, who are extremely valuable assets for any SIO who has to engage the media. This re-emphasizes the importance of managing and working with — as opposed to against — the media. If a clear strategy isn't defined for cooperating, managing, and controlling media activities, and if information channels are neglected, the consequences may wreak havoc on investigations and police/public relations. ■

Checklist for media management

Initial response phase

1. Get cordons in place as quickly as possible to keep the media and public out of the scene(s).
2. Do not discuss any aspect of the case with representatives of the media. There is limited information at this stage and any disclosure of incorrect information may be magnified by the press and may hinder an investigation.
3. Request attendance of a media liaison officer (MLO) as quickly as possible and inform reporters that they will be officially dealt with in due course by the MLO.
4. Only the SIO or high ranking/senior officer should engage with the media unless permission is granted, and ideally only then when advice and guidance has been provided by an experienced MLO.
5. All staff should at all times remain vigilant for media reporters. Any approaches for "off the record" or "informal" interviews should be avoided.

Hate Crime

20 years after the Alain Brosseau murder

By S/Sgt Patrick McCaffery
Ottawa Police Service

On a summer evening in 1989, Alain Brosseau took a shortcut through a park by Parliament Hill on his way home from work at the Chateau Laurier Hotel in Ottawa. A group of young men, believing him to be gay, beat and robbed him, and proceeded to hang Brosseau upside down over the side of the Inter-Provincial Bridge. One man joked about how nice Brosseau's shoes were before dropping him more than 100 feet to his death on the rocky shore of the Ottawa River.

Alain Brosseau's murder not only mobilized the gay community, but was also a catalyst for police to pioneer Hate Crime Units that operated under the premise that even a minor crime might warrant a major police response.

Hate/bias crime is the new name for an age-old behaviour. It refers to criminal offences motivated by hatred towards an identifiable group defined by race, ethnic origin, religion, disability, sexual orientation, or another similar factor. A single incident can be tragic for the victim and forever define and alter the character of a community. These crimes are inherently complicated, misunderstood, and largely unrecognized.

In May 2009, Statistics Canada released a report suggesting a 13 per cent decrease in hate crime incidents. Some will accept this number as indicative of positive progress, while others may argue that the decrease is misleading because hate crimes are one of the most under-reported of all crimes. Much like domestic abuse, hate crimes are imbued with psychological trauma and socio-political implications.

Recognizing discrimination

Like an ocean wave, the undercurrent of hate crime can be difficult to identify. Often starting with rumours, stereotyping and antagonism, the hate wave can swell to more overt actions — such as schoolyard bullying, profiling, exclusion from social privilege and jobs — and too often culminate in criminal acts ranging from property damage to murder. Police are seldom able to intervene until the wave breaks and the criminal threshold has been breached.

This does little to foster confidence in the criminal justice system and can auger the problem of hate crime deeper underground. Meanwhile, offenders hear a different message, concluding that the system is indifferent to this type of behaviour and they escalate accordingly. In the 1990s, academics first shocked the public with numbers suggesting that 90 per cent of hate crime incidents go unreported or the motivation unrecognized,(1) a number today believed to be far too conservative.

> “Much like domestic abuse, hate crimes are imbued with psychological trauma and socio-political implications.”
>
> *Patrick McCaffery*

The statistical dilemma is that although the Statistics Canada Uniform Crime Reporting Survey reported a 13 per cent decrease in reported hate crime between 2006 and 2007, the General Social Survey (which collects data from Canadians who report having been victimized by hate), suggests that only four of every 1,000 incidents are actually reported to police. Four Canadian communities with populations of 100,000 to 500,000 did not report any hate crime in 2007, which is troubling because the numbers are just too low (two of these cities also didn't report any incidents in 2006). Additionally, aboriginals are three times more likely to be victims of violence than all other visible minorities combined, yet there is virtually no record of native hate crime victimization.(2)

The fact is that hate crimes can appear invisible but be happening right in front of you. Similarly, domestic abuse was seemingly "discovered" only decades ago — it, too, was right in front of us, but because few were specially trained to recognize it, it appeared invisible.

Diversity — coupled with globalization, post 9-11 realities, a fiscal crisis, rising immigration, and evolving social trends — can create strain that fuels hatred. The nature of which can cause otherwise law-abiding citizens to become polarized, blame the "other," and perhaps even take action. A pressing concern to the Canadian government even in the 1960s, the Cohen Committee looked into hate propaganda concluding in their report (in 1966), *"in times of social stress, [such] hate could mushroom into a real and monstrous threat to our way of life... [and] constitute a 'clear and present danger' to the function of a democratic society."*

Canada's population is increasingly diverse as its racial, cultural, religious, linguistic and demographic compositions continue to change with the visible minority population growing five times faster than the population as a whole. A better understanding is required about hate motivated crime victimization, the reasons victims report, and how the entire criminal justice system needs to react to intolerance and hatred. ■

References:
(1) Roberts, Julian V. (1995). Disproportionate Harm: Hate Crime in Canada. *Ottawa, Ontario: Department of Justice Canada.*
(2) Royal Commission on Aboriginal Peoples (1996). Bridging the Cultural Divide: A Report on Aboriginal People and Criminal Justice in Canada. *Ottawa, Ontario: Communications Group Publishing.*

ShotSpotter contributes to violence reduction strategy in Rochester

By Chris Delaney
Senior Crime Research Specialist
Rochester Police Department

Like many northeast American mid-size industrial cities, Rochester, N.Y., has been characterized by a declining population, pockets of deep poverty, poor educational performance, high unemployment and very high levels of violent crime. This has led to the dubious distinction as the "murder capital of New York State." Public safety is, therefore, a key element in Mayor Robert Duffy's revitalization strategy for Rochester, specifically reducing firearm crime.

Under Chief David Moore's direction, the Rochester Police Department (RPD) employs a "smart policing" approach to violent crime that emphasizes analysis, intelligence and technology. As a key part of their approach, RPD installed six square miles of ShotSpotter gunshot location system (GLS) coverage in 2006. The GLS uses acoustic sensors that detect and locate gunshots within 25 metres, and the system then immediately relays detailed information (including a geography reference) to dispatchers, allowing for a rapid response time for officers.

RPD has committed to leveraging the benefits of this technology in gun crime hotspots, and since installation, ShotSpotter detection has played a critical role in approximately one case a month. The system is also helping on a preventative level, as the data can be used to predict outbursts and retaliation, proving to be a key component of RPD's violence reduction strategy.

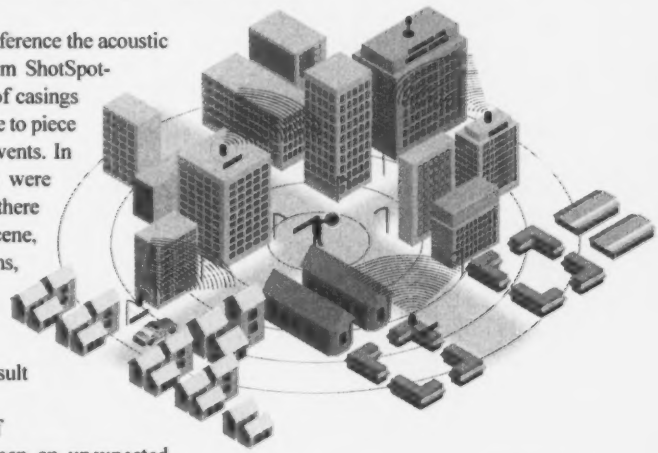
ShotSpotter assists investigations

While gunshot location systems are typically associated with improving response time, RPD has also found it is a useful investigative tool. All too often, RPD investigators respond to the scene of a gun battle only to find different types of casings, a victim, and uncooperative witnesses. In this kind of scenario, ShotSpotter is invaluable. Analysts and investigators can cross-reference the acoustic and time information from ShotSpotter against the locations of casings and the victim at the scene to piece together a sequence of events. In some instances, officers were able to determine that there were two groups at the scene, who was using which guns, and even that the victim's group must have fired first and that the victim was struck as a result of retaliatory fire.

The forensic value of ShotSpotter GLS has been an unexpected asset to Rochester, and RPD gang analysts have also found the data valuable in confirming or challenging confidential informant intelligence. In a recent long-term gang investigation, they were able to use ShotSpotter to piece together a series of retaliatory gang shootings. Investigators used the GLS information during interrogations to challenge the stories of gang members and in several cases were able to obtain confessions — in part due to information ShotSpotter provided about the real sequence of shooting events.

Improving response time

The most advertised benefit of gunshot location systems is learning about gunshots earlier instead of waiting for witness calls. Correspondingly, they also alert officers to gunshots that may not have otherwise been reported. Departments must be committed to providing a quick response to activations and dispatchers must engage in quality control to prevent false positives. In Rochester, for example, quick responses to ShotSpotter activations have yielded arrests of suspects still on scene, gun recoveries, and, most notably, notification of a murder for which they received no calls for service. In that case, the ShotSpotter activation helped the RPD respond to and preserve an important crime scene that they may not have learned of for days.



ShotSpotter, Inc.

Integrating cameras

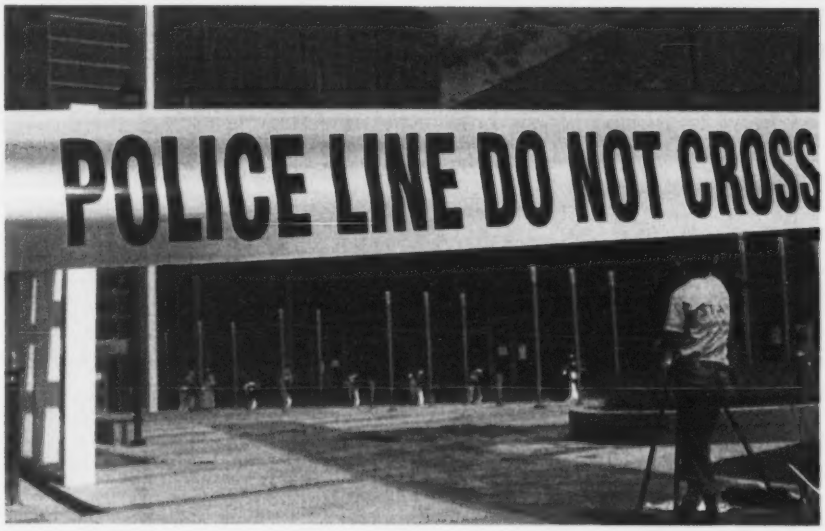
In the last two years, RPD has implemented a camera system that now includes over 100 cameras in high-crime locations across the city. Demonstrating its commitment to innovation in "smart policing," RPD Officer Todd McCormack has worked with the camera system vendor (Avrio RMS Group) and ShotSpotter, Inc., to integrate these two technologies. Now, when a ShotSpotter activation occurs, the nearest camera automatically pivots and zooms to the direction of the gunshot. The instant camera response dramatically increases the likelihood of capturing a suspect on video, and improves coordination of patrol and investigative response.

Like any technology, a gunshot location system is not the panacea for violent crime, but when deployed as part of an overarching strategy, it can be a tremendous asset. Policing organizations worldwide are looking for ways to better combat crime problems, and gunshot location systems represent a new way for police to gather data about gun violence and create more effective operational responses. In Rochester, N.Y., ShotSpotter is a valued component of their data-driven approach to violent crime reduction. ■

Major incident quadrahedral

Managing major crime investigations

By John B. Edwards
Chief Deputy
Evans County Sheriff's Office



In the beginning of any major investigation, law enforcement managers find themselves in the unique position of making order from chaos. Often, much of the preliminary information is inaccurate, complicating the situation.

Supervisors must act with the best information available and assign resources for efficiency and effectiveness. To bring organization and structure to this unsystematic environment, they must simultaneously coordinate four particular areas related to fact finding, resource allocation, stakeholders and the media. Together, these four realms constitute the major-incident quadrahedral. Successfully co-ordinating the four elements of the quadrahedral ensures the best conditions for overall major crime case management.

Fact-finding considerations

The fact-finding portion of the quadrahedral comprises leads-management, interviews, and forensics. Investigative teams conduct specific-focus interviews based on evidence discovered upon arrival at the crime scene or from leads developed shortly thereafter. Additionally, they complete general-canvas interviews of individuals in the neighborhood and surrounding areas, as well as of friends, families, and co-workers of the victim(s).

"Unappreciated and underutilized, the neighborhood canvas is one of the most productive investigative tools," states Gary Rothwell, special agent in charge with the Georgia Bureau of Investigation. "Nothing involving living things occurs in a vacuum, and even the most calculated of crimes cannot overcome the free will of human beings. When crimes occur, somebody usually saw something, and the only way they will tell the police is if they are asked."

Experienced law enforcement officers know that the most important objectives in all investigations are the abilities to identify, collect, analyze and process information quickly and effectively. Acting on that data just as efficiently is also vital to achieve maximum results.

The effectiveness of the investigation often depends on the investigative team's ability to quickly process and complete prioritized leads to swiftly provide answers to the case agent.

Uncovering information that establishes clues and generates leads that tailor the focus and scope of the investigative effort is critical. Further, investigative teams must be able to locate and interview people quickly to obtain credible and reliable statements, locate and preserve valuable evidence, obtain and document the most accurate observations and accounts, and put together specific timelines. Investigators should use "the fact-finding capsule," a fundamental method outlined in three important rules:

1. Haste: quickly accomplish all tasks to seize the initiative and promptly develop facts.
2. Specificity: precisely explore all issues to obtain facts detailed enough to make objective judgments and correlations.
3. Element of surprise: prevent interviewees from thinking too much about their stories and deter the interjection of attorneys into an efficient interview process.

The forensics aspect of fact finding relates to the crime scene and digital information technologies. The crime scene deals with information from all sites if more than one is present. Investigators conduct an inventory to determine what is present (or missing). This evolves into documentation of the entire scene and includes any connection with physical evidence. Digital information technologies include real-time information regarding cell phones (e.g. where the calls are placed from, tracking data, phone numbers, subscriber and tower information, and alpha-beta-gamma directionality). Investigators need these critical details in order to compare and contrast them with information derived from interviews.

These basic investigatory steps remain critical to today's criminal investigations; however, the advent of technologies and modern communications creates a need to apply these old strategies in a new fashion. In today's world, almost every household has access to or possesses a computer, and most individuals possess cell phones. Every technological asset, whether at home or at work, has records, communications, tolls or billings that may reveal valuable evidence regarding a person's lifestyle, friends, associates, enemies or businesses. This information can quickly identify motives and other articulative facts essential to determining an individual's victimology or suspectology.

The first 48 hours are critical in major investigations, and law enforcement managers must ensure an effective leads-management system to process and document information efficiently and effectively.

Resource allocation

The resource section of the quadrahedral entails the manager's ability to govern personnel, logistics, communication and equipment. Many times, major incidents demand the assignment of a large number of individuals as soon as possible. The logistics to support these people and the co-operation, communication and co-ordination among them remain critical. Further, all those involved must have the equipment needed to conduct their duties. The facts of each case dictate resource management.

In cases involving large buildings or other geographical considerations, area assignment coverage may be appropriate. For example, when the tragic shootings took place at Columbine High School (in Littleton, Colo.), officers created a library team, a cafeteria team and a parking lot team to ensure that all witnesses, evidence, and issues were covered. Agencies should have proactive measures in place to confirm that the required resources are available in the shortest period of time.

Stakeholder factors

Stakeholders (victims, witnesses, officials and citizens) serve not only as a source of information but also as a group of individuals who can either cause problems or create support for investigators. Stakeholder management builds the environment and mind-set for successful case function. Moreover, it helps ensure that sensitive information does not become public and that media representatives receive appropriate, supervised access to incidents without impeding investigations.

Law enforcement managers must assign personnel to contact, communicate with, and be available for all stakeholders. This helps guarantee that the manager, rather than an outside source, handles any problems first.

Media issues

Media management represents the fourth realm of the major incident quadrahedral. On a daily basis, media representatives have to consider both their deadlines and the intensely competitive market in which they work.

During crises, they actively and aggressively pursue information to better inform the public. Therefore, law enforcement managers must have the resources to provide the media with a structured area to feel comfortable and secure. Conversely, managers must also equip investigative teams and stakeholders with insulation and security from the media.

It is also the law enforcement manager's responsibility to ensure that the media receives specifically tailored messages — guaranteeing that the successful resolution of the case always comes first, and that information in need of safeguarding is kept confidential and out of the public domain. Further, managers must establish ongoing communications with media representatives and provide them with appropriate and meaningful information.

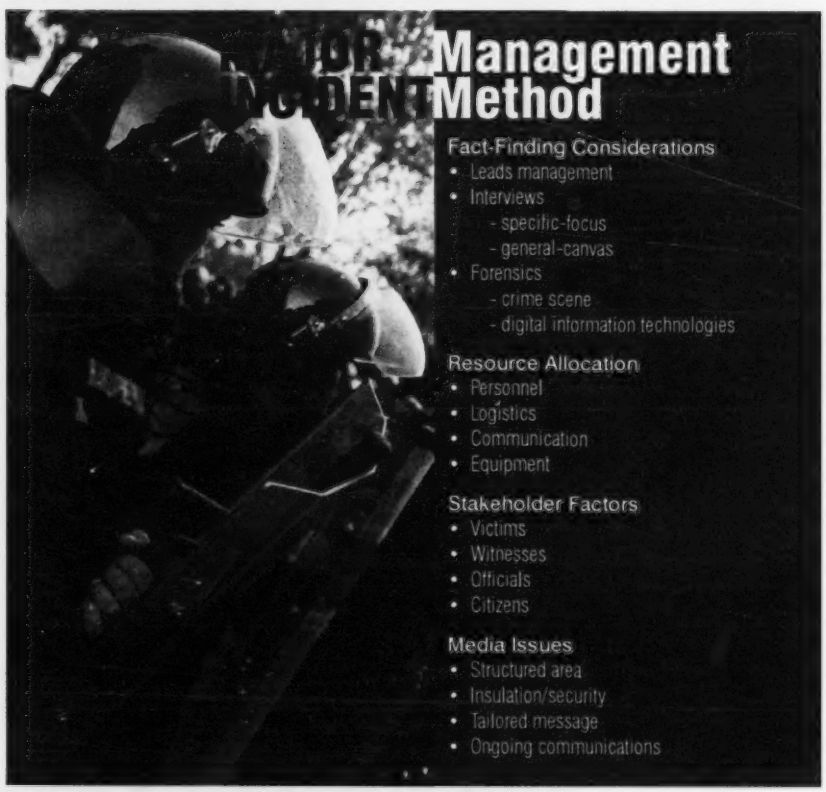
Organizing chaos

The major incident quadrahedral serves as a sound method for law enforcement managers to employ. Investigators must use their skills in a co-ordinated effort in order to ensure that information is developed to the utmost level of professionalism, while the proper level of scrutiny is applied. Simultaneous management of each of the four areas provides a structured format for organization during what often evolves into chaotic circumstances.

In conclusion, basic, simple and fundamental rules of fact finding are critically important in a complex major case. The quadrahedral ensures proper focus and total coverage, creating an environment to achieve the best possible results for the extraordinary responsibilities police managers face. ■

John B. Edwards recently retired as the special agent in charge of the Statesboro office of the Georgia Bureau of Investigation. He has taught investigative courses at numerous federal, state and local agencies. He has also published several articles regarding criminal investigations and serves as a peer reviewer for the U.S. Department of Justice.

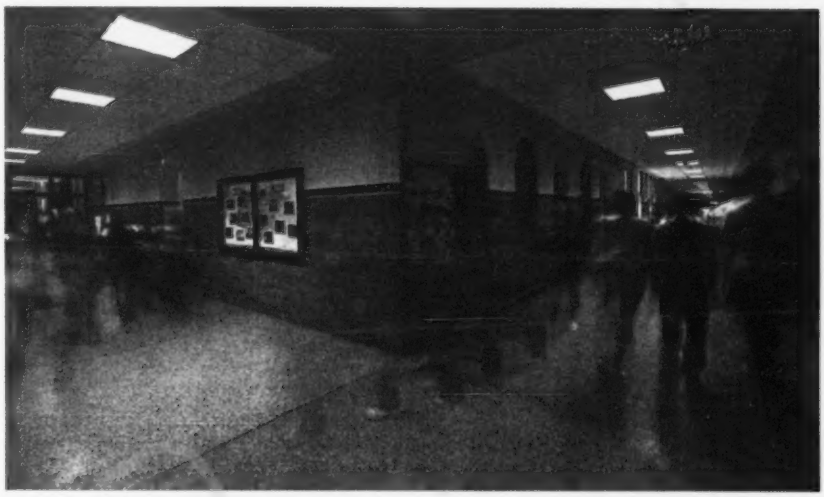
This article is revised from an earlier publication in the FBI Law Enforcement Bulletin.



Preventing and preparing for critical incidents in schools

Since the Columbine school shootings in the United States in 1999, Canada has survived four school shootings. While schools should be safe havens for higher learning, major crime in the schoolyard is an ever-present concern. Former managing editor of the NIJ Journal, *Beth Schuster, takes a look at critical incidents in schools in the U.S.*

By Beth Schuster
Former Managing Editor, NIJ Journal
U.S. Department of Justice



Ten years ago, on a sunny day in April, Eric Harris and Dylan Klebold walked into Columbine High School in Jefferson County, Colo., and began shooting. They killed 13 people and wounded 21 others before turning the guns on themselves. The events of that spring day mark one of the most devastating school shootings in U.S. history.

Each attack has a terrible and lasting effect on the students, school and surrounding community – and on the nation as a whole.

Statistically, shootings and other homicides are a rare event in U.S. schools. According to the Centers for Disease Control and Prevention, school shootings represent less than one per cent of homicides among children aged 5 to 18. From 1999 to 2006, 116 students were killed in 109 school-associated incidents. But as those in Jefferson County know all too well, school shootings can be a very real and very frightening part of school violence in this country. Each attack has a terrible and lasting effect on the students, school and surrounding community — and on the nation as a whole. Even one school shooting is too many.

A closer look at school shootings

A 2002 study by the U.S. Secret Service and the U.S. Department of Education — funded in part by the National Institute of Justice (NIJ) — took a closer look at 37 incidents of targeted school violence in the United States between Dec. 1974 and May 2000.* "Targeted violence" — a term developed by the Secret Service — refers to any incident of violence where a known attacker selected a particular target prior to the attack. The study explored the behaviour of the student-attackers in the 37 incidents in an effort to identify information that could help communities prevent future school attacks.

The study found that these were rarely sudden, impulsive acts. In 95 per cent of the cases, the attacker had developed the idea to harm the target before the attack. Most had access to and had used weapons prior to the incident. More than two-thirds of the attackers obtained the guns used in the attack from their own home or that of a relative.

There is no accurate profile of a "school shooter," according to the study. The shooters came from a variety of racial and ethnic backgrounds and ranged in age from 11 to 21 years. Some came from intact families with ties to the community; others came from foster homes with histories of neglect. Their academic performance ranged from excellent to failing. Few had been diagnosed with any mental disorder prior to the incident, and less than one-third had histories of drug or alcohol abuse. Almost three quarters of the attackers (71 per cent) had felt bullied, persecuted, threatened, attacked or injured by others.

Prior to the incident, 93 per cent of the attackers behaved in a way that caused others concern or indicated a need for help. In fact, in more than three quarters of the cases examined, the attacker had told a friend, schoolmate or sibling about his or her idea before taking action. But rarely did the person who was told about the impending attack — in nearly all cases, a peer — bring the information to an adult's attention.

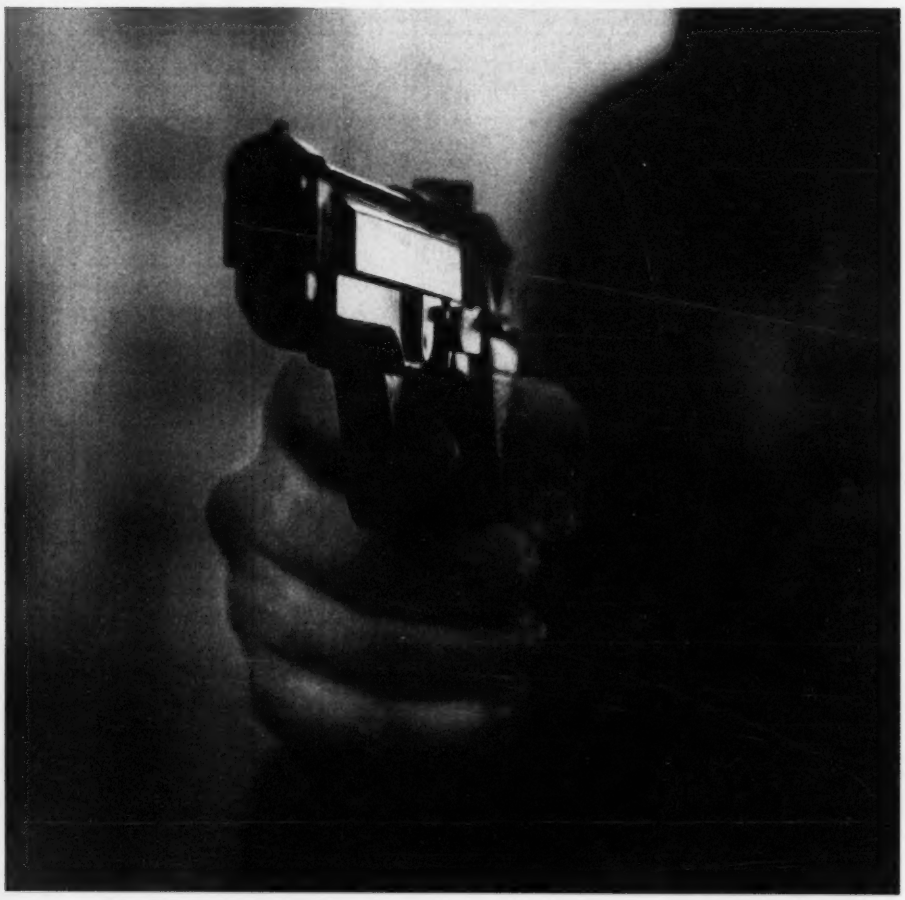
How prepared are schools?

Many of the critical incidents examined in the Secret Service and Education Department study lasted no more than 20 minutes. In fact, 47 per cent lasted 15 minutes or less from the beginning of the shooting to the time the attacker was apprehended, surrendered, stopped shooting, left the school or committed suicide; one quarter were over within five minutes.

Given the short duration of most school attacks, it is crucial for schools to have prevention efforts and critical incident response plans in place. But how prepared are schools? According to the 2006 School Health Policies and Programs Study by the

Centers for Disease Control and Prevention, approximately 95 per cent of school districts had a comprehensive plan to address crisis preparedness, response and recovery. Of these districts, about 82 per cent provided funding for training or offered training on the plan to faculty and staff during the two preceding years.

As for individual schools, 97 per cent had a crisis preparedness, response and recovery plan, and among these schools, 87 per cent provided training on the plan to faculty and staff. Yet in a 2004 national survey of more than 750 school-based police officers, (conducted by the National Association of School Resource Officers), about half of the officers said the emergency plans for their schools were not adequate. More than 66 per cent indicated that their emergency plans were not practiced on a regular or ongoing basis.



Helping schools prepare and respond

NIJ makes tools and training programs available to help schools and school districts resolve conflict, manage critical incidents and prevent school violence. The tools and programs were developed with evidence-based practices and the recommendations of experts in NIJ's School Safety Technology Working Group in mind, says Mike O'Shea, program manager for NIJ's safety portfolio.

"These resources — all of which are free — can help teachers, administrators, staff and law enforcement officers prepare and respond to any type of critical incident in their school," says O'Shea. A few of these resources are listed below:

- School Crime Operations Package (School COP): This NIJ-funded software allows school-based police officers, administrators and security officers to map and analyze crime incidents that occur in and around schools. They can enter a daily log of incidents of school violence and crime, quickly display incidents involving a particular student and produce graphics showing school "hot spots" or year-to-year trends. School COP can help schools establish policies for school safety, target school violence and prepare for future threats.
- School Safety Plan Generator: Law enforcement officers and school staff can use this interactive CD-ROM to create a document that helps prepare the school and serves as a reference guide for all first responders during critical incidents. The document can include the school's demographics, members of the critical incident planning team, roles and responsibilities, emergency locations, supplies and equipment on hand, and critical lines of communication.
- *A Critical Incident: What to Do in the First 20 Minutes*: Developed by the North Carolina Office of the Attorney General and Department of Juvenile Justice and Delinquency Prevention, this video shows a dramatization of a school shooting. Viewers watch the school's response to the shooting and discuss what went right, what went wrong, and how they can use the lessons learned to improve their own critical incident plans.

Protecting students

In the decade since Columbine, other communities across the country have experienced similar tragedies. Schools should be places of learning and development — not violence and fear. Keeping students and schools safe should continue to be at the top of every school administrator's and police department's agenda. NIJ's ongoing efforts will help them achieve that goal. ■

This article is reprinted in part from the NIJ Journal, *courtesy of the U.S. Department of Justice.*

* *Vossekuil, B.*, The Final Report and Findings of the Safe School Initiative: Implications for the Prevention of School Attacks in the United States. *Washington, D.C.: U.S. Secret Service and U.S. Department of Education, May 2002.*

Mass, serial and spree killing: distinction or distraction

By James Alan Fox, PhD,
and Jack Levin, PhD
Northeastern University

Not very long ago, all forms of multiple murder were uniformly considered mass killing. The defining characteristic was the body count — not how, when or why the murders occurred. Professional and popular publications occasionally made passing reference to the terms "spree" and "serial," but only in a descriptive sense (e.g., "He went on a killing spree," or, "He murdered his victims in a serial fashion").

Neither serial murder nor spree killing existed as special classifications for homicide until the early 1980s when, the Federal Bureau of Investigation (FBI) launched a large-scale program of research and technical assistance in relation to cases of atypical homicide and proposed a trichotomy of multiple murder. The FBI Behavioral Sciences Unit (BSU) defined mass killings (or massacres) as homicides involving the murder of four or more victims killed in a single episode, (although some researchers prefer using a three-victim threshold). Repeat murderers were then classified by the BSU as either serial or spree killers based on the length of their killing "time span" and whether or not they "cool off" between attacks.

Operationally, the spree killer forges a swath of destruction, usually over a period of several days, wherein most of his activity surrounds planning or executing his crimes and evading the police. By contrast, the serial killer, who may continue to kill over a period of months or years, often has longer time lapses between homicides, during which he maintains a more or less ordinary life. Indeed, for many observers, the most surprising aspect of so many of these predators is their ordinariness in almost every regard, except their passion for violence.

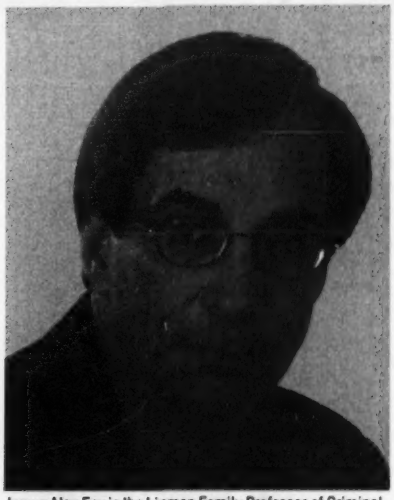
Defining the subtype

Unfortunately, classifying multiple homicides into mass, spree, and serial subtypes has generally been more a meaningless distraction than a helpful distinction. In 1990, when a sadistic assailant murdered five college students in Gainesville, Fla., over a three-day time period, too much focus and debate surrounded whether it was a serial killing or a spree murder. Eventually, investigators discovered that the same perpetrator — Danny Rolling — had committed a mass murder nine months earlier in Shreveport, La., revealing a very long cooling off period for a spree killer. In a sense, Rolling could have been considered a mass, spree, or serial killer — or all of the above.

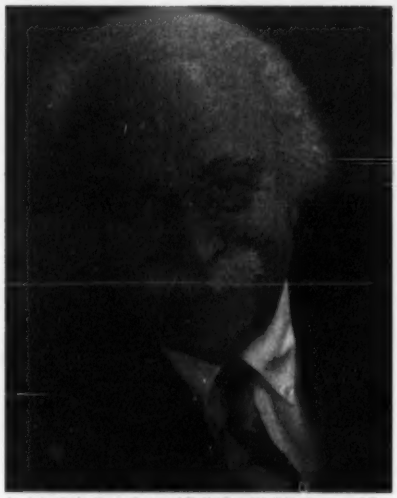
In 1997, Andrew Cunanan killed four men in quick succession, apparently in a frenzied state of mind. He then stayed on the loose for months, ultimately resurfacing in Miami where he fatally shot fashion designer Gianni Versace. Cunanan had apparently transitioned from spree killer to serial murderer. In this case also, the distinction was not at all helpful.

It is far more fruitful to conceptualize multiple homicide not so much in terms of the timing of assaults (as in the mass/spree/serial distinction), but in the context of the underlying motivation. Generally, five main themes of motivation can be identified in these crimes, although they also frequently overlap.

The most common theme involves an expression of power — whether it be a sadistic serial killer who enjoys the experience of extinguishing life, or a gunman who wages a personal war on society by shooting indiscriminately inside a crowded restaurant. These crimes often have a sexual component, such as the Canadian team of Paul Bernardo and Karla Homolka, who played out their rich fantasies with teenage girls abducted off the streets. On the other hand, the thrill of feeling superior over one's victims — and maybe even the police — can for some perpetrators be as compelling as



James Alan Fox is the Lipman Family Professor of Criminology, Law and Public Policy at Northeastern University.



Jack Levin is the Irving and Betty Brudnick Professor of Sociology and Criminology at Northeastern University.

sexual desire.

The revenge motive is also commonplace, reflected in the disgruntled employee who executes those on the job whom he sees as responsible for his miseries, as well as in the serial predator who seeks to avenge past mistreatment (e.g., at the hands of a domineering parent) by slaughtering victims who resemble his long-standing tormentor. Revenge can be selective and focused, as many killers methodically seek out certain victims for payback. In other cases, assailants may target total strangers — but only those who represent their enemy class. For example, Marc Lepine massacred female engineering students at the University of Montreal, deliberately seeking out women whom he saw as taking over male occupations and roles. The least common, yet most visible, form of revenge involves large-scale executions in public places.

A less common, yet quite distinctive, form of multiple murder includes terror-based crimes in which the killer sends a political message through murderous activities. Over a period of 18 years ending in 1997, the so-called Unabomber sent letter bombs through the mail to unsuspecting university and corporate leaders. Theodore Kaczynski's 35,000-word manifesto published in the *Washington Post* revealed the depths of the Unabomber's resentment toward technological, post-modern society. Similarly, the 1995 bombing of an Oklahoma City federal building in which 168 lives were taken was carried out by two individuals — Timothy McVeigh and Terry Nichols — who despised the government.

At least a few multiple homicides have been profit-motivated. In October 2002, over a three-week period, John Muhammad and Lee Malvo — better known as the D.C. snipers — randomly shot to death 10 residents of the Maryland, Va., and Washington, D.C. areas. Their motive was to extort $10 million from the government in exchange for stopping their killing spree. But finding no acceptable way to negotiate with the sniper task force, Muhammad and Malvo continued committing murder.

Rounding out the list of motives are crimes of loyalty — i.e. killing out of devotion to a cause or to other people. In 1969, Charles Manson's so-called "family" slaughtered seven people in Beverly Hills. The youthful killers were absolutely devoted to Manson, whom they regarded as possessing supernatural powers and talents. Manson convinced his followers of the inevitable race war, which they could hasten by committing a murderous rampage against affluent white Americans.

Investigative challenges

A further issue that has persisted over the years surrounds the prevalence of multiple homicide, regardless of form or purpose. While the popular press has often been quick to declare a few high-profile cases as evidence of an epidemic, multiple homicide remains relatively rare. Even in the United States, where most journalists and researchers look for cases to examine, the number of victims annually is in the few hundreds, not the few thousands (as has been speculated from time to time during media-inspired panics). Although this may reflect just a small proportion of all criminal homicides — about two per cent — it is disturbing nonetheless that just a handful of perpetrators are responsible for such devastation and destruction, as well as fear and dread in the wider community.

Aside from these motivational distinctions, serial murder, spree killing and massacres do tend to differ in terms of law enforcement response. By virtue of their proven ability to kill repeatedly without apprehension, serial killers pose the greatest challenge for investigators. They typically kill strangers, so the list of likely suspects can be endless. They select vulnerable, easy targets, such as prostitutes, children or nursing home residents, especially favouring marginal victims so as not to attract attention from authorities who might feel more pressure to solve cases involving middle-class or mainstream victims. And they carefully cover their tracks by transporting and disposing of the bodies to limit the extent of physical evidence linking them to their crimes.

With a few exceptions, massacres, by contrast, pose little difficulty in an investigative sense because the perpetrators often take their own life as a final act of despair or are gunned down by police at the scene. At that point, the only real — and often very perplexing — question becomes, "Why?"

The field of multiple homicide remains in a relative state of infancy. We are still learning much about the nature, patterns and circumstances surrounding these crimes. Unfortunately, with each passing year, there seem to be a few high-profile cases that add a new wrinkle or two that force us to re-examine our assumptions all over again. ■

James Alan Fox, PhD, and Jack Levin, PhD, are professors at Northeastern University in Boston. They have co-authored several books on multiple murders, including Extreme Killing: Understanding Serial and Mass Murder.

Sea piracy

Fighting major crime on the high seas

While thoughts of piracy used to bring images of tall ships and fantasies of adventure to mind, in reality, recent years have seen a resurgence in piracy. The International Criminal Law Network held a conference in the Netherlands in December 2009 to discuss new international instruments for fighting piracy. Here, Europol Corporate Governance Deputy Director Michel Quillé examines Europol's role.

By Michel Quillé
Europol Deputy Director,
Corporate Governance Department,
and Diane Boles
Europol Corporate
Communications Unit

The new tyranny of the seas, otherwise popularly known as piracy in the current climate, has become an increasing problem for shipping organizations both originating in and doing business with countries in the European Union (EU). Since piracy can be a crime where the jurisdiction is not clear, fighting piracy poses a huge challenge for the law enforcement entities affected, both on land and at sea.

The main geographical area of concern is the Gulf of Aden off the coast of Somalia. This waterway is part of the important Suez Canal shipping route between the Mediterranean Sea and the Arabian Sea that sees approximately 21,000 ships crossing annually — broadly speaking, 20 per cent of the world's vessels travel through here. The gulf is now known as "Pirate Alley" due to the large amount of pirate activity in the area. The gulf is a main shipping route from European waters, so it is inevitable that European ships are also primary targets of pirate attacks. Pirates' principal goals in hijacking ships are almost always related to financial gain (pirates demand a ransom).

EU targets

It has been concluded that European targets — i.e., merchant or military ships and even individuals from supposedly wealthy EU countries such as the Netherlands, Italy, Greece, Belgium, and France — are very attractive to pirates in this region.

One recent example of a ship being attacked was the hijacking of the Spanish tuna trawler MS Alakrana, which had 36 crew members on board. Having narrowly escaped a hijacking attempt one month earlier, the crew of the Alakrana fell victim to pirates on October 2, 2009, and was held hostage for 47 days. The pirates demanded a ransom of around two million euros.

Fortunately, the boat was released in November and the Spanish navy arrested two Somalians in connection with the crime. However, the Spanish Alakrana was just one of many ships originating from the EU that was hijacked in 2009. As of December 2009, it was estimated that there were more than 10 merchant ships being held in the waters off Somalia.

We can therefore conclude that piracy constitutes a major threat to EU shipping vessels and EU security in general. Additionally, the activities connected to piracy have been suspected of having links to organized crime, human trafficking and money laundering. Links to terrorism have also been suggested but remain elusive.

The main factors that are driving acts of piracy are political unrest, social insecurity, poverty, monetary gain, and, in some cases, an element of terrorist interest.

The international stage

Since piracy has become such a problem for EU governments, finding a solution to combat this threat has become a hot topic. How to approach the problem is a starting point. The fact is that there are major differences between law enforcement entities, policies and procedures in various countries, including those countries directly affected by piracy. Also, in addition to the law enforcement side, there are the added complications of the military, political and legal dimensions — all seeking ways to prevent, apprehend and prosecute piracy suspects.

Not only are the identities of the pirates themselves obscure, but quite often little is known about the criminal structure behind the acts of piracy and whether these acts are committed by individuals seeking a ransom or by organized criminal entities seeking to raise money for subsequent illicit activities. It is therefore imperative that an international co-ordinated effort address the bigger picture.

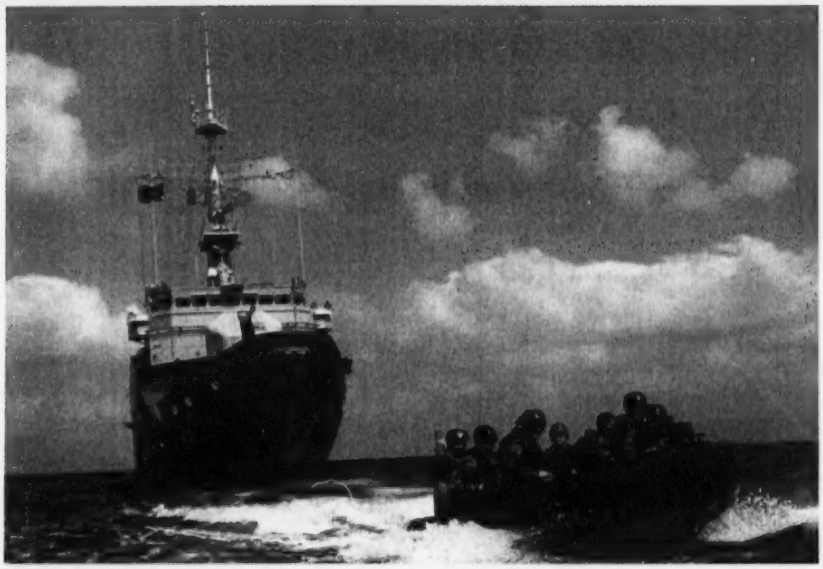
EU task force

On December 8, 2008, the EU Navy Force launched EU NAVFOR Operation Atalanta — an international task force intended to protect vulnerable vessels sailing in the Gulf of Aden. The military operation consists of units from Belgium, France, Germany, Greece, Italy, Luxembourg, the Netherlands, Spain and Sweden, with contributions from other EU nations.

The EU force could of course overwhelm the hijackers, but since the EU follows the rule of law and will not risk hostages' lives, the risks of doing so are too great. Hence the likelihood is high of a ransom being

Swedish warships HMS Stockholm (foreground) and Trossoe join the EU NAVFOR fleet at sea.

European Union



European Union

The French frigate Le Floreal patrols the Gulf of Aden as part of the EU NAVFOR fleet.

paid to free the hostages. It would therefore appear to currently be a win-win situation for the pirates, i.e., there is a high probability that they are not going to be apprehended, and they will mainly achieve exactly what they want from the hijacking. Therefore, effectively defeating piracy will require combined legal, military, political and police co-operation on an international scale.

Co-operation

Earlier this year, the head of the Dutch Europol national unit requested a joint meeting in order to put forward the possibility of using Europol as a suitable instrument to assist in targeting the criminal organizations involved in piracy. Present at this meeting were experts from Europol, INTERPOL, the European Commission and several members states. It was proposed then to set up a Europol Analytical Work File (AWF) on piracy, which was very well received.

A work file is used as an instrument to exchange information and best practice, or, as in this case, information that can subsequently support the fight against piracy. The expertise provided by the contributing parties provides insight into the activities of these criminal groups and assists the law enforcement entities involved in making more strategic decisions and plans for future deterrence. An AWF on piracy can support EU member states to make important future decisions, such as that regarding the possible use of a liaison officers' network in the affected geographical locations.

Combating piracy

International police co-operation — and thereby Europol's role — will encompass the following elements:

At an operational level:

- identify key players (criminals, perpetrators) through an ability to receive, store and analyze specific identifying data such as DNA, fingerprints or voice recognition patterns;
- identify communications patterns of the perpetrators and allied groups;
- identify suspicious financial transactions linked to piracy;
- identify key logistical assets; and
- identify links to other criminal activities.

At a strategic level:

- act as a platform for the exchange of expertise (networking);
- assess the piracy phenomenon from the police perspective (threats and trends); and
- condense the "police dimension" into the need to collect intelligence and provide evidence against these criminals for the purposes of apprehension and subsequent prosecution.

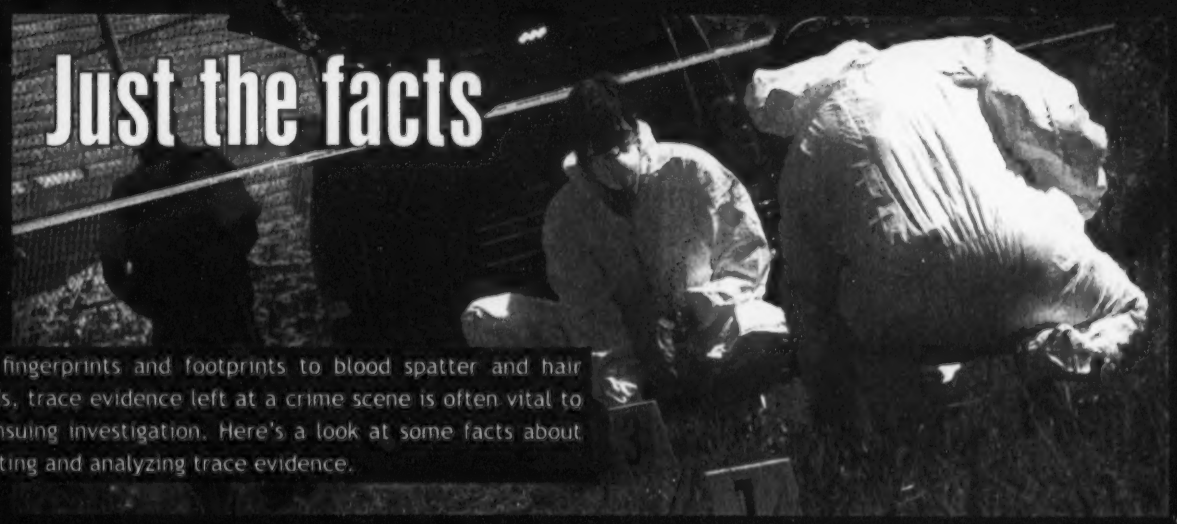
With nine member states currently committed to actively supporting the fight against piracy, the AWF on maritime piracy was signed by the Director of Europol on January 18, 2010.

In conclusion, it can be said that piracy currently poses a direct threat to EU security and is currently a major problem for European ships, crews and even tourists to the affected areas. Europol is ready, able and willing to be a partner in combating piracy through effective international co-operation. ■

Members of the French Navy arrest nine suspected Somali pirates, foiling their attempt to hijack a cargo ship.

European Union

Just the facts



From fingerprints and footprints to blood spatter and hair strands, trace evidence left at a crime scene is often vital to the ensuing investigation. Here's a look at some facts about collecting and analyzing trace evidence.

At least 30 per cent of prints lifted from knife hilts, gun grips, steering wheels and window panes at crime scenes are of palms, not fingers, according to surveys of American law enforcement agencies.

Latent prints lifted from a crime scene are typically small — only about 22 per cent the size of rolled prints — and are often smudged or distorted, according to the FBI.

In Europe, usable footprints are found at approximately 40 per cent of crime scenes, but American crime labs report only one to two per cent of submitted evidence as involving footprints.

Blood spatter resulting from a high-velocity impact like a gunshot wound is usually less than one millimetre in diameter and travels a distance of 24 to 46 inches.

The living root of a freshly plucked human hair contains nuclear DNA that can reveal a person's unique DNA fingerprint, but 90 per cent of hair recovered from crime scenes doesn't have roots suitable for DNA testing.

The likelihood of matching a tool with tool marks at a crime scene increases if the marks are "striated" — or composed of a series of parallel lines, like pry marks on a window frame — versus "impressed" — or composed of an impression of the tool's shape, like a hammer mark on a door frame.

The best evidence at a burglary scene is usually found at the point the suspect gained entry to the building.

In a California study of ballistic imaging, the image database successfully matched 62 per cent of recovered shell casings to the guns that fired them — but only when the recovered casings came from the same manufacturer as the casings in the database. When the recovered casings came from a different manufacturer, the success rate dropped to 38 per cent.

DNA evidence is five times more likely to identify a suspect than are fingerprints, according to research by the Urban Institute.

Biological material collected by patrol officers is just as likely to result in suspect identification as is biological material collected by forensic technicians, reports the Urban Institute.

Fewer than 20 per cent of crime scenes in the U.K. are forensically examined, and only five per cent of examined crime scenes result in a successful DNA sample being entered in the U.K. National DNA Database.

The Ottawa Police Service collected 131 DNA swabs from break and enter scenes in 2006, resulting in 97 DNA databank matches involving 149 criminal cases.

SOURCES: New York Times, "Fingerprints taking smaller roles in investigations" (Nov. 21, 2008); posted on PoliceOne.com: **www.policeone.com** ; Chicago Tribune, "Fingerprint evidence put on trial" (Feb. 25, 2002), posted on Complete Latent Print Examination: **www.clpex.com/Articles/Newz/2002/2002-02-25-4.htm** ; Law Enforcement Technology, "Walking in another's shoes: footprint evidence provides clues to solve crime" (April 2007), posted on Officer.com: **www.officer.com** ; Christman Forensics, "Bloodstain pattern analysis": **www.christmanforensics.com** ; Center for Science and Medical Journalism, Boston University, "Untangling the secrets of your scalp": **www.bu.edu** ; Jeffrey Toobin, "The CSI effect: the truth about forensic science": **jeffreytoobin.com** ; HowStuffWorks, "How crime scene investigation works": **science.howstuffworks.com/csi.htm** ; Crime and Clues, "Burglary investigations": **www.crimeandclues.com** ; National Center for Policy Analysis, "Ballistic imaging: not ready for prime time" (Policy Backgrounder No. 160, April 2003): **www.ncpa.org** ; Urban Institute, "The DNA field experiment: cost-effectiveness analysis of the use of DNA in the investigation of high-volume crimes" (April 2008): **www.urban.org** ; Nuffield Council on Bioethics, "The forensic use of bioinformation: ethical issues" (Sept. 2007): www.nuffieldbioethics.org ; British Journal of Criminology, "The DNA expansion programme and criminal investigation" (Vol. 46, No. 2, 2006): **bjc.oxfordjournals.org** ; Ottawa Police Service, "2006 activity report": **www.ottawapolice.ca**

Rising to the challenge

Games security wins praise from team leader

PRTC Multimedia Services

RCMP A/Commr Bud Mercer visits the security team at the Whistler Olympic Park.

By Joanna Burgess

The Olympic and Paralympic flames are extinguished, but the RCMP can still bask in the glow of a job well done. Providing security for the 2010 Olympic and Paralympic Winter Games was an enormous task. The RCMP's *Pony Express* editor Joanna Burgess spoke with RCMP A/Commr Bud Mercer, head of the Vancouver 2010 Integrated Security Unit (ISU), who couldn't be more appreciative of the law enforcement community's dedication and hard work, which helped make the Games a success.

How did the ISU secure the Games without taking the focus away from the athletes?

While security was a necessary part of the Olympic and Paralympic Games, it should never overshadow all the reasons we are here — which are sports, culture and the ability of our athletes from around the world to showcase what many have worked a lifetime to accomplish.

I think we were very successful in doing that. We did that by using our resources smartly. Our resources were professional, friendly, helpful and engaging. I think when you have all those qualities, what actually happens is that people look beyond the uniform.

We also used our IT systems smartly. We had state-of-the-art technology, which allowed us to reduce our security footprint and the number of visible police officers. We had a very robust Joint Intelligence Group, the 2010 JIG, so we were able to strategically deploy people based on the very best of intelligence that was available to us.

What was the 2010 Joint Intelligence Group's role?

The 2010 Joint Intelligence Group had one of the toughest jobs to collect any and all information and assess the relevance and its risk to the Games. They had a job to do. They acted within the law. They acted professionally and appropriately and the people that they spoke with, the people they approached, there was a reason to approach them. It's as a result of the work that they did do that we were well positioned to predict where we would have some challenges.

Why was a private security workforce included in security plans?

We looked at each and every position and determined whether or not (that postition) actually had to be a gun-carrying police officer. There are only a finite number of police officers from across the country that are available, and we still have jobs to do in our home communities. So when we looked at our venue access points, we made a conscious decision that private security or groups other than police officers were the best ones to fill those roles.

The 4,800 private security personnel were still our responsibility and so these private security folks were supervised by law enforcement by the ratio of about four-to-one.

Over and above that, during the Games, we had constant quality assurance testing going on. We would have folks that would actually be testing our venue-access infrastructure. Very quickly into the games, we were very comfortable in our private security people — again supervised by law enforcement — that they were doing the job professionally, and that they were doing the job that they were entrusted with.

What is the RCMP's legacy from the 2010 Games' security operation?

The databases we developed for the force that will exist in a major-events capacity or that allowed us to capture what we have done has probably made this, from a security standpoint, one of the most transparent and collated files in the history of the force.

I think another of the many legacies that's left behind is our execution of a plan in an integrated model. We are what we are because of the integrated model and how well it worked — not only in the security area, but in the public safety side.

I've received a number of letters, e-mails and notes of support from colleagues, visitors, the IOC (International Olympic Committee), and VANOC (Vancouver Organizing Committee) about how professional and engaging our people were. I could not be prouder of the way they performed their jobs, including our members in red serge. Watching them march in the opening and closing ceremonies — it couldn't have been a prouder moment for the RCMP. ■

The Canadian Forces

Supporting RCMP-led security for the 2010 Winter Games

Canadian Forces

The Air Force conducts surveillance during the Vancouver 2010 Games.

By Rear-Admiral Tyrone Pile
Canadian Forces

On June 3, 2003, when Vancouver was selected as the host city of the 2010 Olympic and Paralympic Winter Games, few would have guessed it would result in one of the largest domestic security operations in Canadian history. I know my first reaction was simply one of pride and excitement that the Games would be returning to Canada for the first time in 22 years.

Seven years later, these very emotions remain at the core of the Canadian Forces' contribution to the 2010 Games. It was our own Olympic spirit that continually served to remind us that the Olympics are a sporting event, not a security event, and our role would be to support the RCMP to ensure the safety of Canadians, international athletes, visitors and dignitaries to Canada.

Under the RCMP's leadership, the Vancouver 2010 Integrated Security Unit united over 100 agencies from all levels of Canadian government to work together towards ensuring a safe and secure Games through an integrated security model. The Canadian Forces (CF) was certainly proud to be a part of this endeavour, having had supported both the Montreal and Calgary Olympic Games. In fact, the Vancouver Games was the Canadian Forces' top domestic priority for 2010, while our commitments to missions in Afghanistan and Haiti remained undiminished.

Comprehensive training

CF's contribution to the Vancouver Games, named Operation Podium, was an unprecedented domestic military operation. Joint Task Force Games (JTFG), the formation responsible for planning and directing the military security for the Vancouver Games, comprised 4,500 personnel from the Army, Navy and Air Force. Our mandate was to support the RCMP with unique capabilities — those of which were especially valued given the scope of the geography for the Games: an area that encompasses river deltas, snow-capped mountains, densely-populated urban areas, tree-laden valleys, vast ocean spaces and one of the busiest airspaces in Canada.

We knew we had a rigorous journey ahead of us, one that would require an extraordinary amount of preparation, training and co-ordination amongst our federal, provincial and municipal partners. To facilitate this process, the Government of Canada established the 2010 Integrated Exercise Program in 2007. The program included Exercises Bronze, Silver and Gold, paving the way for a whole-of-government approach capable of responding to any contingency.

Concurrent with the Integrated Exercise Program, we also conducted a series of CF-specific exercises designed to ensure we were tactically and operationally ready. For example, 1,500 CF members participated in Exercise Spartan Rings, which took place over five days in October 2009, providing our maritime, land, air and support elements the

Army personnel and an RCMP officer patrol the backcountry area around Games venues.

Canadian Forces

With all the effort put into preparing, just as much effort was taken to maintain a low profile throughout the Olympics.

opportunity to practice realistic scenarios in order to successfully overcome a spectrum of potential threats to the Games. We also worked hand-in-hand with our American partners — United States Northern Command, the North American Aerospace Defense Command, the U.S. Navy and the U.S. Coast Guard — to share information and manage airspace and maritime boundaries.

Keeping a low profile

On January 29, 2010, I declared that JTFG was ready and prepared to support the RCMP in implementing security measures on land, in the air and at sea. This was a surreal moment for me; we had finally arrived at the destination for which we had long prepared. And still, with all the effort put into preparing, just as much effort was taken to maintain a low profile throughout the Olympics.

Army personnel patrolled in the vicinity of many Olympic venues, particularly around Cypress Bowl and the Athletes' Village in Whistler (on foot, ski, snowshoe and snowmobile). Army personnel also conducted avalanche awareness and search and rescue preparedness, and provided mobility support to civilian police. Air Force personnel, flying Griffon and Sea King helicopters and Aurora and Twin Otter aircraft, conducted surveillance patrols to support land and maritime forces. They also provided stand-by air mobility support to the RCMP's Emergency Response Teams, Quick Reaction Teams and Police Dog Teams. Navy personnel from both coasts and each of Canada's 24 Naval Reserve divisions — with a Halifax-class frigate, two Kingston-class maritime coastal defence vessels, three Orca-class patrol vessels and a host of rigid-hulled inflatable boats — conducted maritime surveillance, port security, dive operations and underwater sweeps. In Vancouver Harbour, security booms were installed to create a massive floating barrier encircling accommodation vessels that housed security personnel.

Perhaps the only instance where we did not keep a low profile was with our Ceremonial Contingent. The contingent consisted of 62 of our finest soldiers, sailors, airmen and airwomen who served as flag bearers at various ceremonial events and as escorts for medalling athletes at both the Olympic and Paralympic Games.

Our support to the RCMP was extensive and it is impossible to do more than provide a snapshot of those efforts. But I speak on behalf of the 4,500 CF members that participated in Operation Podium when I say our contribution to the Games was a once-in-a-lifetime experience for many of us. The Vancouver 2010 Winter Games is a model for future domestic operations and a testament to what can be achieved through partnership and co-operation. For the Canadian Forces, it is also a reflection of our ability to fulfill our responsibilities at home, while continuing to meet our obligations around the world.

I am happy to say that the Olympic spirit has not left me just yet; I think it may be there for some time. ■

As the top Canadian Forces commander on Canada's west coast, Rear-Admiral Tyrone Pile holds two key command roles. He heads both Maritime Forces Pacific (MARPAC) and Joint Task Force Pacific. For the three years leading up to and including the Vancouver 2010 Games, he was also Commander of Joint Task Force Games.

On guard for thee

The 2010 Olympic and Paralympic Winter Games were truly Canada's Games. The entire country came together to compete, support and watch. The RCMP worked with many great partners, but one of the largest sources of support came from the Canadian Forces (CF).

The CF had resources and equipment that helped protect the Games by land, sea and air. RCMP officers were also a part of many CF patrols, particularly in the backcountry around Whistler. "Traditionally, cops don't do mountains and forests," said Rear-Admiral Tyrone Pile. Law enforcement officers accompanied most CF missions in order to enforce the rule of law if necessary.

"The CF's goal was to be low profile, be in the background, be busy, but not visible," explains Pile, adding that he feels the CF accomplished that goal — especially since he spoke with many members of the public who said they didn't even realize the military was at the Games, but that it was reassuring to know they were there. Most of the CF's bases were just outside city perimeters in isolated areas not visible from the road. Many Navy ships patrolling the waters did so further from shore, and aircraft were high enough that they didn't draw attention. And any movement of resources and supplies was done at night.

Pile's mandate was to bridge the CF's defence focus with the law enforcement mandate of the RCMP, whose upholding of the law on Canadian soil is a top priority. This was exactly why the CF was a partner in the Integrated Security Unit (ISU) right from the beginning.

The CF also faced challenges involving training and the weather.

Timelines and preparations for Games security meant that CF personnel deployed to B.C. at different stages. Troops were spread out across the entire theatre of operations. "Normally we like to train together and send everyone off together as a team," Pile says. "We were not able to do it this way this time because the majority of our people were only brought in weeks before."

Teams patrolling the mountains and backcountry also got to brush up on operating in a different kind of climate. "The Army isn't always used to working in a winter environment," Pile says. "We're used to deploying abroad. This has been great exposure for us."

— Joanna Burgess

Reducing crime and revitalizing the community

By Spencer Pryor
Director, Public Safety Communications
North Charleston Police Department

North Charleston, S.C., ranked as one of *Congressional Quarterly Inc.'s* top 10 most dangerous cities in 2006 and 2007. Within North Charleston, the Chicora-Cherokee neighborhood consistently carried the highest rates for violent crime in the city.

These facts and related negative media coverage could have easily persuaded city residents and businesses to paint a negative picture of their communities. Instead, the North Charleston Police Department (NCPD), the Chicora-Cherokee-based Metanoia Community Development Corporation, and local community leaders forged a strategic partnership to foster a safer and healthier community by focusing on community strengths instead of weaknesses.

Recognizing that the Chicora-Cherokee neighbourhood's low home-ownership rate directly corresponded to its high crime rate, the NCPD and Metanoia committed to building community strength. Understanding that community residents and local leadership are central to the accomplishment of any sustainable reductions in crime, this approach has served as a way to not only improve quality of life and public safety, but also heal historic divisions between the community and the NCPD.

Restoring communities

In 2005, the year prior to *Congressional Quarterly*'s dangerous-city ranking, Metanoia was already building a grassroots movement for change, having created a board led by community residents. The community identified the Ubank Street corridor in Chicora-Cherokee as one of high criminal activity, containing a number of vacant lots, unoccupied and dilapidated homes, and a defunct park where there was an abundance of drug and criminal activity.

In an effort to create a more stable community, Metanoia's board focused on stabilizing the community by bringing together the NCPD, the North Charleston Recreation Department and concerned residents who lived in the Ubank Street area. The recreation department agreed to relocate the park equipment to the local community centre, Metanoia committed to rehabilitating a vacant home, and the NCPD committed to increased monitoring and patrolling in the area. The number of violent crimes in the corridor dropped from 35 in 2005 to 30 in 2006.

Building trust

The elements that make the police-community partnership unusually creative and effective reflect the asset- and community-based approach. In being asset-driven, Metanoia focuses its resources on identifying community assets and attracting investment towards community revitalization and development. The asset-based approach recognizes that pursuing strategies solely based on needs and problems tends to deconstruct communities rather than helping them grow.

From its beginnings, Metanoia recognized the benefits of a community-based approach and the critical role that local citizens play in revitalizing their own communities. Similarly, NCPD Chief Jon Zumalt sought to take his department from a reactive stance to a more proactive one through the establishment of a Community Panel in 2008. The panel allows the NCPD, Metanoia and other community leaders to develop solutions and actively seek community-generated ideas, recognizing local grassroots leaders as assets.

> "Local leaders...have an integral role in crime-reduction strategies and building community trust between the police department and citizens."
>
> *North Charleston Police Chief Jon Zumalt*

In continuing to focus on this challenging Ubank Street corridor, Metanoia acquired four adjacent lots and an additional vacant home in 2006. Metanoia increased community investment through leveraging economic support from funds administered through the South Carolina Housing Finance and Development Authority, the City of North Charleston and the Lowcountry Housing Trust. By the time construction was completed and the homes were sold at the end of 2008, there had been only 12 violent crimes along this corridor. Overall, the trend from 2006 through 2008 illustrates a 66 per cent decrease in violent crime. These numbers continue to decline. (The NCPD defines violent crime as murder, forcible rape, robbery or aggravated assault.)

Metanoia was also a crucial partner in a Citizens' Patrol Against Drugs (CPAD) that began in 2008. In partnership with the NCPD, citizens and officers marched the streets together to build community relationships. The CPAD patrolled nightly, then weekly, then monthly for more than a year, resulting in overall violent crime dropping more than 20 per cent in the Chicora-Cherokee neighborhood.

"Local leaders are not simply called to meetings to be informed of police activities," explains Zumalt. "They have an integral role in crime-reduction strategies and building community trust between the police department and citizens."

The NCPD creates, maintains and strengthens strategic alliances and partnerships throughout the city through this Community Panel. A few of the panel's accomplishments are listed below.

- NCPD Gun Buyback: The first initiative of its kind in South Carolina, the NCPD teamed up with Mt. Moriah Baptist Church and St. Matthew Baptist Church to buy back firearms from community members. The churches provided advertising and NCPD officials handled the transactions. The successful initiative saw

242 weapons recovered, six of which were determined to have been stolen.

- It's Cool to Be in School: The NCPD partnered with members of the Community Panel and local media outlets to reduce truancy on the first day of school. In 2007, 13 per cent of the North Charleston student population did not attend the first day of school. On the first day of school in 2008, the Charleston County School District provided names of absent students to a team of police officers and community residents who visited students' homes. The presence of officers in the community alongside local leaders contributed to a spirit of community-wide participation in the program.
- Community Roll Call: The NCPD took its regular weekly roll call into the community to be hosted by local civic groups. Metanoia's Young Leaders Program hosted the first of these roll calls, allowing police to interact with community youth in a positive and engaging environment. Subsequent roll calls were hosted by churches and community centres. Officers did a standard lineup inspection that included students interspersed with officers. The experience produced stronger community relationships and was a great example of proactive and relationship-based policing.
- Youth mentorship programs: The NCPD worked with the Community Panel to host a number of summer sports leagues in city parks. The NCPD sponsored a basketball league during the summer of 2008. The league considerably improved relationships with neighborhood residents.
- Murder Intervention Task Force: The NCPD gathered a list of community leaders who were willing to act as liaison persons who could be called upon to discourage retaliation attempts by families and friends of murder victims. In one of the first murders of 2009, community leaders served as translators and community peace makers during the investigation. Despite having only a few leads initially, the NCPD arrested a suspect within 48 hours of the murder.

Overall, these new strategically designed and community-based initiatives complemented other internal NCPD initiatives: 2007–08 led to a decrease in murders by 47 per cent, while forcible rapes decreased by 31 per cent and aggravated assaults decreased by 18 per cent. Across the city there was a 17 per cent decrease in the violent crime rate.

Before these projects were initiated, the relationship between the primarily white NCPD and the predominantly African-American neighborhoods of North Charleston was often tense and strained. The NCPD has worked on increasing visibility of African-American leadership among civilian employees and police officers, which has helped ease tensions.

By respecting community input and focusing on neighborhood assets, the NCPD and Metanoia are seeing real results within their jurisdiction. No longer can the work of policing or community development be confined to dealing only with the negative elements of society.

"This is great recognition for the teamwork that exists in Chicora," says Zumalt. "The reduction in crime and improvements in neighborhood livability will be sustainable due to the partnership of Metanoia, community leaders and the City of North Charleston. We have all agreed that for North Charleston to succeed, all of our neighborhoods must be successful, and we are committed to continue our work in Chicora." ■

Members of the North Charleston Police Department and representatives from Metanoia accept a Neighbourhood Revitalization award from MetLife Foundation in 2009, in recognition of their efforts in the Chicora-Cherokee neighborhood.

North Charleston Police Department

Latest research in law enforcement

The following are excerpts from recent research related to justice and law enforcement. To access the full reports, please visit the website links at the bottom of each summary.

Child sexual abuse images: an analysis of websites by Cybertip.ca

By the Canadian Centre for Child Protection

This report provides an in-depth analysis of reports to Cybertip.ca, Canada's tipline for reporting (online) child sexual exploitation. (Cybertip.ca receives and analyzes tips from the public about potentially illegal material, as well as activities regarding the online sexual exploitation of children, and refers any relevant leads to the appropriate law enforcement agency.)

(This report) focuses on child sexual abuse images on websites and provides an overview of the scope of the problem from the tipline's perspective.

Of the 35,111 website incidents processed by Cybertip.ca (between September 26, 2002, and March 31, 2009), 15,662 involved sites hosting child pornography and were examined in this report.

The results of this assessment provide some disturbing data on the issue of child abuse images. Most concerning is the severity of abuse depicted, with over 35 per cent of all images showing serious sexual assaults. Even more alarming is the extreme sexual assaults which occur against children under eight years old. These statistics challenge the misconception that child pornography consists largely of innocent or harmless nude photographs of children.

There appears to be a marketing component to many websites hosting child sexual abuse images. The messaging on these sites is overtly sexual in nature and promotes child sexual abuse. The frequent use of legal adult pornography terminology and sexual marketing tactics are attempts to normalize the consumption of these child sexual abuse images.

Since July 2007, Cybertip.ca has been tracking the payment types being advertised by commercial child sexual abuse websites. In that time, analysts noted 27 different payment types being accepted, most of which would be considered online payment systems. However, in 54.8 per cent of instances, the websites still claimed to accept traditional credit cards for payment.

Unfortunately, very few countries in the world can consider themselves exempt from the issue of online child sexual abuse. A review of the website and image host country(ies), based on a geographic IP look-up at the time of analysis, revealed that nearly 60 countries were hosting this type of content.

There are a number of technological challenges that exist in dealing with child sexual abuse images on the Internet. The reality is that illegal content is widely and publicly available and regularly moves in an effort to avoid being shut down. Constant movement and challenges in accurately identifying site operators require the need for additional solutions to better address this problem.

This report provides numerous recommendations in all areas, including those related to Cybertip.ca operations, international collaboration and research. One of the primary outcomes is that education and public awareness need to be enhanced for all stakeholders in order to make a difference in fighting online child sexual abuse.

To access the full report, please visit: ***www.cybertip.ca/app/en/research***

Driver distraction in commercial vehicle operations

By the Virginia Tech Transportation Institute

This study investigated the impact of driver distraction in commercial motor vehicle (CMV) operations. The data set used includes approximately three million miles of continuously collected kinematic and video data, and represents the most comprehensive naturalistic CMV driving set in the world.

A total of 4,452 safety-critical events (i.e. crashes, near-crashes, crash-relevant conflicts [less severe near-crashes], and unintentional lane deviations) were identified in the data set, along with 19,888 baseline (uneventful, routine driving) epochs. Key findings were that drivers were engaged in non-driving-related tasks in 71 per cent of crashes, 46 per cent of near-crashes, and 60 per cent of all safety-critical events.

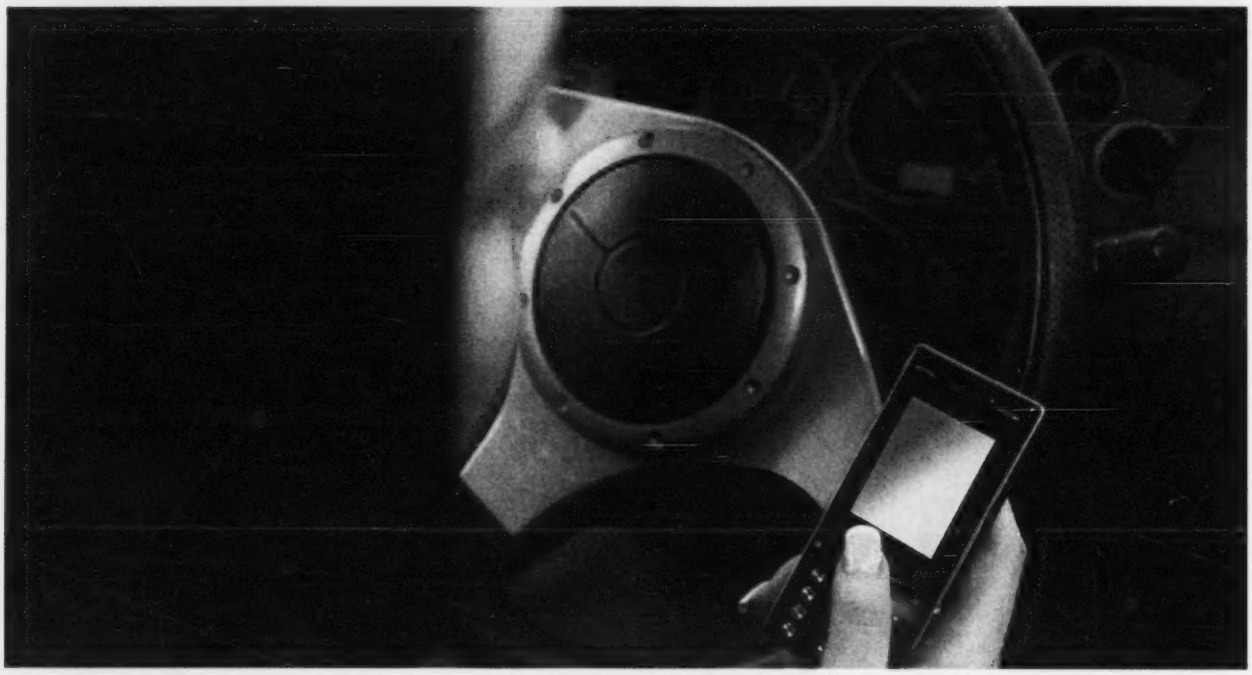
The most risky behaviour identified was "text message on cell phone." Drivers who text message while driving were 23.2 times more likely to be involved in a safety-critical event, compared to a baseline epoch.

Several other tasks had significantly high odds ratios. Interacting with a dispatching device (e.g., a small keyboard placed on the steering wheel) and dialing a cell phone were two noteworthy complex tasks associated with substantially elevated risk in being involved in a safety-critical event.

An interesting finding from the analyses was the result for cell phone use. Reaching for or dialing a cell phone was indicated to be a high-risk task. However, talking or listening on a hand-held phone was found to have an odds ratio that did not elevate the likelihood of being involved in a safety-critical event. Furthermore, talking or listening on a hands-free phone provided a significant protective effect (defined as decreasing the risk of a safety-critical event), as did Citizens Band (CB) radio use.

The positive findings for "listening and talking" are consistent with results of two recent naturalistic studies with light-vehicle (e.g., passenger automobile) drivers. In the first study, protective effects were found for moderately complex tasks, which included talking/listening to hand-held devices. In the second study, when drivers were using a cell phone, they had lower speed variance and they maintained their eyes on the forward roadway.

Because this is one of the first studies to focus on CMV driver distraction, it will be important to conduct follow-on research to assess the robustness of these findings. Many of the results were consistent with previous



distraction studies with light-vehicle drivers. However, some results (e.g., the high risk associated with short glances [of less than 0.5 seconds]) may be novel to CMV operations.

To access the full report, please visit: ***www.vtti.vt.edu/publications.html***

Storytelling for professional development in a technology-mediated police learning environment

By Kenneth H. Anderson and William D. Muirhead

Educational technology is frequently used in professional development. E-learning platforms and computer-based training have found a place in current development pedagogies. This study examines the use of a technology-mediated learning environment (TMLE) for the professional development of police officers. The focus is an exploration of the effects of storytelling in a TMLE as perceived by front-line police officers during their early years of training and development.

Storytelling is a well-entrenched method to pass on experience to novice police officers. The marriage of storytelling with a police TMLE is an idea born of the desire to make these environments more engaging, while employing a learning method that has proven to be beneficial in police circles. A qualitative research methodology is used to examine this idea, and test for its use and application for the future.

Storytelling is a well-entrenched method to pass on experience to novice police officers.

An e-learning course was made available to research participants (front-line patrol officers with between one and three years of policing experience). This course utilized a storytelling method to deliver content, presented in the form of three videos of police officers relating their experiences with projects and exercises relating to the training and usage of problem-based learning practices. A sample group (of research participants) was interviewed using a semi-structured approach.

This study points to the high value of stories as a teaching tool for professional development within policing and demonstrates that the effects of stories delivered through a TMLE mirror the effects of stories delivered through face-to-face contact. There are efficiencies and benefits through the former delivery system; the working environment of the officers is such that the constraint on their time requires a conciseness of learning and content delivery that can be well-addressed through a TMLE.

Perhaps the greatest benefit of the use of stories delivered through a police TMLE lies in the control of the consistency of stories that can be delivered. In the face-to-face interaction, there is little or no control over what a newer officer is told; in the TMLE, stories can be picked and edited prior to delivery, in line with the organization's goals and mission. This benefit can serve to address the concern that perhaps the wrong stories are being told, and ensure that a highly desirable culture is being instilled in them from the onset of their careers.

To access the full report, please visit: ***www.policecouncil.ca/pages/research.html***

Enhancing tactical operational support

By Timothy Workman
Project Manager for
Strategic Partnerships
Institute for Information Technology
National Research Council Canada

National Research Council Canada

Canadian Forces Warrant Officer Claude LaPointe, left, tosses a "flash bang" grenade as Sgt Pierre Harnois prepares to enter the room. This simulation display at NRC-IIT Fredericton will aid research aimed at improving training tactics.

In order to provide enhanced levels of both preparation and operational support in the field of law enforcement, the National Research Council of Canada Institute for Information Technology (NRC-IIT), has undertaken a number of research projects in collaboration with defence and security organizations. Exploring how emergent learning methodologies, operational processes and information technologies can be leveraged to overcome a wide range of training and operational challenges, the partners are also looking at how changes to legacy practices, program models and supporting technologies can enhance efficiency, effectiveness and experiential focus.

The contemporary operating environment faced by many law enforcement officers is dynamic, uncertain and inherently dangerous. The training required to adequately prepare personnel for putting themselves in harm's way cannot be understated.

Performance-based occupations are best supported by learning opportunities that emphasize practical training applications in addition to classroom-based instruction. For many years this has been attained through training exercises that leveraged physical infrastructure and high instructor–student ratios. However, costs associated with maintaining elaborate training facilities, staffing expenses and housing for students over long periods are but a few of the constraints faced by many training centres. Furthermore, these types of training programs are unable to practically emulate the wide range of situations that law enforcement personnel can expect to encounter while performing their duties.

Training in virtual reality

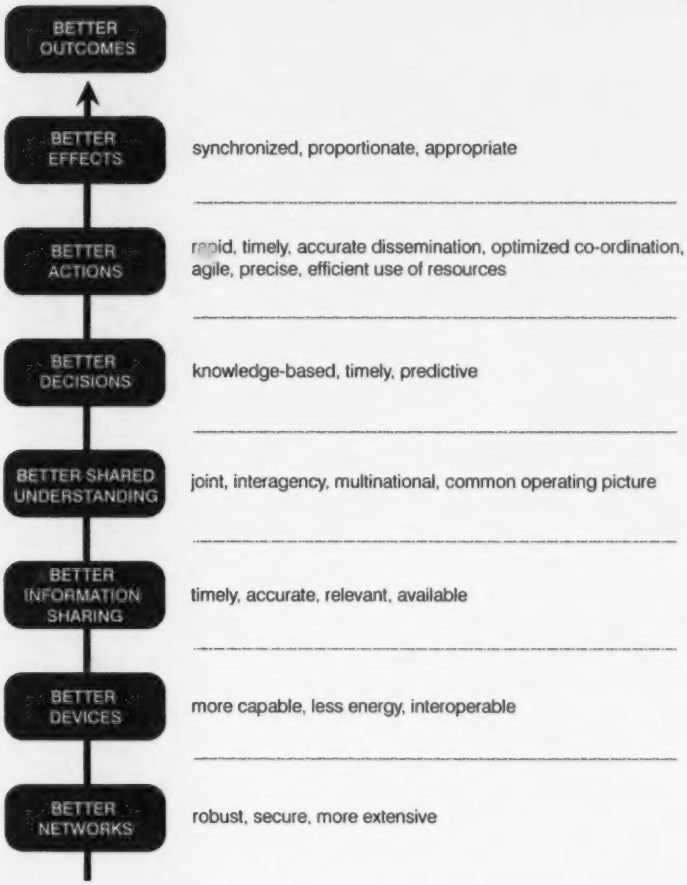
One solution that has been highly successful in military parallel training programs has been the adoption of virtual simulation platforms in addition to legacy methods and systems. Efforts within the Canadian Forces have shown that integrating interactive computer-based simulation within on-site training programs can have a significant impact on reducing requirements for physical infrastructure and improving the trainee's proficiency — proving effective in reducing the time it takes for a trainee to achieve competency levels. Although virtual in nature, these simulations can create a more diverse range of training experiences than physical training environments. The virtual environment fosters a much more cognitively challenging training situation while providing experiential emphasis.

NRC-IIT is currently collaborating with the Department of National Defence to improve user interface technologies that better represent actual training environment operating conditions. For example, in the Immersive Reflexive Engagement Trainer (IRET) project, researchers are developing technologies that could assist in marksmanship and judgment training for close-quarter small arms engagements. This project has three lines of research and development that are focused on the technology aimed at helping improve the means by which military, law enforcement and security personnel can be trained:

1. Voice recognition: allows learners to communicate verbally with computer-driven characters within a simulation. This will enable learners to apply appropriate challenge and communication procedures in "hostile" situations where their choice of language, tone, enunciation and even volume will have an impact on the outcome of the scenario.
2. Laser interface: tracks the firing of a simulated firearm to provide detailed feedback on weapon handling and engagements throughout a scenario, including all aiming points, arcs covered and actual shots fired.
3. Cognitive modelling: models instructor and trainee behaviour task profiles that can be used to assess a wide range of elements related to performance and skill. This can also be applied to instruction related to verbal and non-verbal communication as part of team engagement procedures.

Technological advancements in these areas will help create a more dynamic and measurable trainee environment within which a range of technical (i.e. weapons handling) and cognitive (i.e. judgmental/tactical decision-making) training scenarios can be conducted.

The benefits chain associated with network-enabled operations.



National Research Council Canada

Exploiting technology

In the spring of 2010, NRC-IIT will be undertaking a research project exploring the potential for using distributed simulations in support of training. Aiming to provide government organizations with test-bed virtual-simulation environments to explore new platforms, technologies and capabilities, it will also provide links to ongoing research programs in this field. One goal of this project will be the development of an online virtual environment suitable for military and law enforcement training and operational support applications within the context of complex urban environments, similar to that of the Vancouver 2010 Olympics and the 2010 G20 Summit. The goal is to decrease the gap between end-users and researchers, while increasing user sophistication and expertise that in turn will drive the research agenda.

While the specific technologies associated with this project will evolve over time, the exploration of distributed simulation as a training methodology has the potential to help reduce training infrastructure requirements, reduce the requirement for on-site training associated with certification and re-certification programs, and expand collaboration between trainees, training establishments and training fields. For example, simulation environments could facilitate large-scale exercises involving a number of stakeholders (i.e. police services, fire services, paramedics, etc.) that would be cost- and resource-prohibitive to conduct as a physical exercise. This is especially true when engaging with stakeholders from other countries, where travel expenses can be more significant than the training event itself.

Within the context of operational support, NRC-IIT is conducting research and development that is examining how GPS/location-based technologies, advanced data mining, broadband communication networks and mobile technologies can be exploited to improve the collection, processing and dissemination of tactical information between organizations and people. Research in this field explores a wide range of topics that can contribute to the benefits chain where successive improvements in technologies and processes lead to improved outcomes.

Leading with innovation

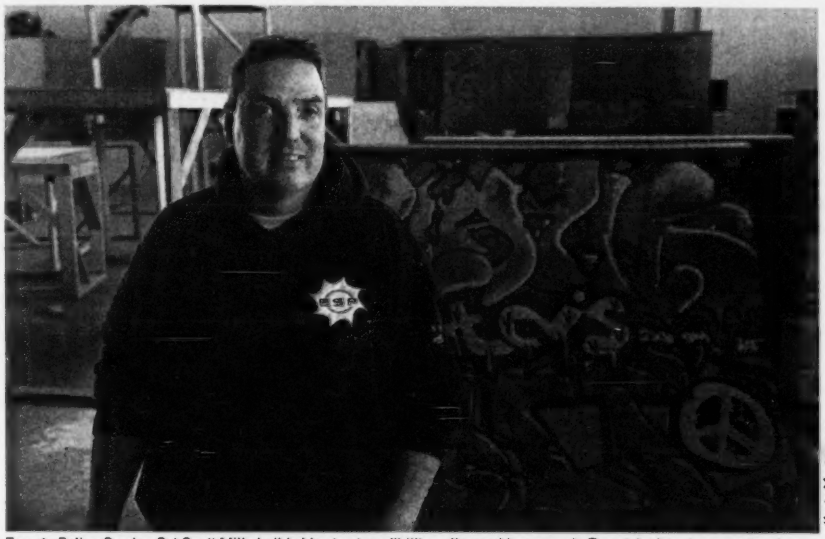
Ideally, this evolution of network-enabled platforms will support a vision of integrated processes and technological solutions that will enable tactical adaptive dispersed operations in the context of Joint, Interagency, Multinational, Public- (JIMP-) enabled operations. It will also provide evolving, sustainable, fully secure, integrated and interoperable network-enabled learning and operational performance support capabilities that are relevant and flexible to the security/first-responder communities, as well as synchronized between national, regional and municipal organizations.

NRC is the Government of Canada's premier organization for research and development. Recognized globally for research and innovation, NRC is a leader in the development of an innovative, knowledge-based economy for Canada through science and technology. Established in 1990, NRC-IIT conducts scientific research, develops technology, creates knowledge and supports innovation as one of NRC's 20 research institutes and national programs. With labs in three Canadian provinces (Ottawa, Ont., Fredericton, N.B., and Gatineau, Que.), NRC-IIT undertakes research in three strategic directions of information technologies: knowledge from data (making sense of information), people-oriented systems (enabling effective use of technology), and e-business ("anywhere, anytime").

NRC-IIT will be working to expand its partner network in 2010 in collaboration with defence and security cluster organizations in order to identify and focus efforts on common research interests. In addition to the development of specific technologies to support training and operational support applications, NRC-IIT also researches associated methodologies and processes that can enhance individual operational performance through technology-enabled solutions. ■

Employing social media in the fight against crime

By Kevin Masterman
Writer/Photographer
Public Information Unit
Toronto Police Service



Kevin Masterman

Toronto Police Service Cst Scott Mills builds his street credibility online and in person in Toronto's downtown west end.

When Cst Scott Mills has a problem, he taps on the shoulders of thousands of friends for help.

The Toronto Police Service (TPS) veteran has built an online community on social networking sites such as Facebook, Twitter, Vibe.to and YouTube, celebrating community–police interaction that also aids investigations.

"The challenge for police is to get out there and provide direction and leadership online from an official source," says Mills of his work as the Toronto Crime Stoppers Community Youth Officer. "If not, there will be rumours and innuendo that may cause problems for an investigation."

He reached out to the online community the old-fashioned way — in person. He has been mobilizing young people through community events such as BMX competitions, neighbourhood clean-ups and legal graffiti murals. "You need a fan base so when you need to get timely information out, the audience is there," explains Mills, who gives the example of the response he got when he used Facebook to post appeals for information on missing teen Mariam Makhniashvili, 17.

Within six hours of posting the appeal (in English) for help to find the Georgian-speaking teen, online community members had posted translated versions on YouTube and Facebook. The case garnered national attention, much of it from a grassroots online campaign. "You hit an audience you would never otherwise get using traditional media," says Mills.

Fostering trust

Mills says that officers must build credibility by engaging young people, not just slinging information onto the web and expecting good to come from it. "Get out there and build relationships," he says, noting his range of online friends — from former gang members with extensive criminal records to overachieving young people. "When you get guys who've been in trouble saying, 'I want to help,' or, 'I want a job,' you get buy-in all over."

He encourages officers to try to be as edgy and relevant as possible to get the word out to their target audience — young people looking for something positive to do.

"Scott (Cst Mills) is always keeping us updated on Facebook," comments 16-year-old Tyler, a BMX enthusiast who participated in a camp put on by Toronto Community Housing.

Jason Tojeiro, who co-ordinated the camp, says that 30 kids participated. "All these kids are on Facebook all the time; they find so much to do through Facebook and Scott."

Patrolling the web

Mills got involved online while working in TPS's busy 14 Division, an area with prime real estate and community housing. In one local incident, a 14-year-old was stabbed and investigating officers found the suspect openly bragging about the violence online. "But what do you do with that? How do you put the suspect behind the keyboard?" says Mills.

After laying charges and seeing sentences that didn't reflect the severity of the crime, Mills and other officers began Project Internet Truancy: officers who spot teens committing minor crimes then look into their Internet usage.

"The best way is to stop it before it happens," Mills says. In late 2007 they found a teen online talking about school violence and the best way to kill police.

"We stopped a school shooting before it happened," Mills says. "We found it in black and white on his blogs."

Mills says police must keep an eye on the web just as they do the streets to prevent violence and ensure that no one is being preyed upon. He adds that while the police community has been slow adopting an online presence — probably because they are intimidated by the technology and lack of procedures in place — he feels the payoff to putting yourself out there is tremendous.

"I'm not doing it alone," comments Mills, "I have thousands of people with me." ■

Cst Scott Mills is joining the Public Information Unit of the TPS as a Social Media Relations Officer. Take a look at Mills in action: facebook.com/ScotMills2.